

MANUFACTURERS' RECORD

A Southern Industrial, Railroad and Financial Newspaper.

Vol. XVII. No. 18.
WEEKLY.

BALTIMORE, JUNE 7, 1890.

\$4.00 A YEAR.
SINGLE COPIES, 10 CENTS.

Manufacturers' Record.

PUBLISHED EVERY SATURDAY BY THE
MANUFACTURERS' RECORD CO.
President, Secretary and Treasurer,
WM. H. EDMONDS.

H. EDMONDS, EDITOR.
WM. H. EDMONDS, BUSINESS MANAGER.

OFFICE,
THE EXCHANGE PLACE AND COMMERCE STREET,
BALTIMORE.

SUBSCRIPTION, - - - - \$4.00 a Year.
To Foreign Countries, - - - 6.50 a Year.

BALTIMORE, JUNE 7, 1890.

It is a tribute to Middlesborough, to Mr. A. A. Arthur, and to the American Association, that the promoters of several town development schemes are pointing to Middlesborough as an illustration of what may be accomplished in the way of development. With the same aggregation of resources and advantages, the same control of money, the same masterly skill and ability in management, of course the same results are possible, but these essentially precedent conditions must first be assured.

The Spring Palace Burned.

The great Texas Spring Palace, at Fort Worth, has been burned to the ground. The Spring Palace was one of the curiosities of the age. As an exhibit of the natural resources and products of the State, it was a worthy exemplification of the enterprise and public spirit, as well as the taste and skill not of Fort Worth only, but of the whole of Texas. The estimated loss is \$100,000, but in that is represented no part of the labor and care involved in the collection of the exhibits of counties and localities all over the State.

Fort Worth is a city of hustlers, however, and next year, no doubt, the public will be invited to a reproduction of the Palace on a grander scale, filled by the energetic and progressive people of the State with a more elaborate collection of mineral and timber and agricultural specimens than has ever been seen before.

Why They Invest Their Money

Somebody has clearly epitomized the actuating principle of New England capitalists as a "desire to get six per cent., with a willingness to take ten," and if there be anything in the record of Yankee financiering, this explanation is surely not far amiss. The current of money that is now flowing steadily southward from New England is an interesting and instructive element in the great industrial activity that is now manifest throughout the entire South from the Potomac to the Gulf, and from the Atlantic coast to the far western edge to Texas. At first sight one who has not studied the situation is likely to characterize much of the present development in the South as wild speculation. To one who reads and hears of the amazing growth of Southern towns, the rapid advance in the values of real estate and the establishment of great manufacturing interests before new cities have hardly emerged from their swaddling clothes, there is at first something so strange and bewildering that the first impression is naturally one of incredulity. But the man who sits down for an hour or two and thoughtfully considers the conditions under which the advancement of the South is being accomplished, the men who are moving and stirring in all this progress, and the methods by which they are proceeding, is inevitably convinced that what he mistook at first sight for a gigantic mushroom of speculation is in reality a mighty industrial growth, developed rapidly but none the less surely upon a basis that is at once both substantial and permanent. It does not require many days nor even many hours for a reasoning man to establish it pretty clearly in his own mind that the men who have put their money into Southern investments, and who are increasing these investments many times over, are reaching after gains that are plainly in sight and within easy reaching distance.

New England investors are generally recognized as seekers after more

than the average profits of commerce. They are conceded at home and abroad to be "anxious for six per cent., and willing to take ten" on every dollar that they place, and this fact has led to the pretty general recognition of the direction of the flow of New England money as an indication of the region where large profits lie, and many a man is to-day thankful that he followed this guidance. There was a time, and not so long ago, when every spare New England dollar was sent spinning to the West to be loaned to needy farmers at ten or twelve per centum per annum. There was an earlier time when all New England's floating cash was lumped to build great railway lines through Western States, fruitful in promise of great crops to furnish freight, and to push the great iron highways down across the Southern borders, even to Mexico's distant and ancient capital. There was another era when the horizon of prospective profit was seen by keen-sighted Yankees up around the great lakes, and to the mineral regions of that section money and brains went side by side. The great fortunes that the mines and railroads have yielded testify to the wisdom of the investments that gave them birth, while all the world knows the tribute that has been levied upon the farmers of the West.

The mines and railroads remain. So also do the farms of the West, but the shrewd New Englander recognizes that the line of safety in their mortgage indebtedness has been passed, and now he looks for six per cent. and hopes for ten in another direction. Probably no man recognizes more clearly than does the New Englander that the most stable investments are those based upon industrial interests, and it is for this reason that so much hard cash is rolling from Maine, New Hampshire, Vermont and Massachusetts to the South. It is the same characteristic search for large and sure returns, based upon substantial evidences that such profits will be forthcoming. Nor is this money being

furnished to speculators. The New England men whose money appears in the South in mills, mines and town property are the actual owners and investors. They have carefully placed their money where they expect it to remain and yield large returns. It is not in paper cities nor in mortgages upon farms that would not realize the cost of foreclosure, but it is in growing manufacturing towns and in great productive industries that New England capital is being invested. Anyone of even a limited acquaintance in New England can recognize at a glance that the names of those who are interested in Southern development are not the names of speculators, but of staunch and shrewd business men, manufacturers and bankers.

But perhaps there are those who are not content to follow such a steady guidance and modest demand as New England affords. Let them, then, note what New York is doing in the South with characteristic push and energy, striking with bold determination for large stakes.

Again, there are those who desire an example even more conservative than New England can offer. For such there is a striking lesson in the millions of Pennsylvania and Philadelphia capital that is pouring Southward. Philadelphians are no novices in Southern investments. They have had years of wholesome experience, and the marks of their sturdy industry are seen on every hand all the way down the great valley in Virginia. Where they have put one dollar another has soon been added, and what they have built or bought they have held for the income yielded.

Not all that is being done in the South is being done by Northern men or Northern capital, but both are powerful factors in the rise and progress of the New South, and as such their examples are patterns worthy of following, inasmuch as the actuating principle is not that of speculation but a determination to wrest profits from the rocks and fields by honest industry.

Encouraging Small Industries.

Marion county, East Tennessee, in which Kimball, the new city, is located, has voted to remit taxes on all manufacturing plants for a term of years. This is a much wiser policy than that adopted by a town in one of the Middle States, which recently voted to exempt from taxation every new manufacturing establishment with a capital of \$25,000 and upward. There are many sections of the South seeking to secure the establishment of new industries in their midst, which have not yet seen the wisdom of adopting any tax exemption policy whatever, while there are others, both counties and cities, that have acted on a liberal plan, and are realizing satisfactory results. If in any case exemptions are made, there should be no specification as to the amount of capital invested, for most of the very large and most prosperous concerns in the North and West began their careers with but a few hundred or at most a few thousand dollars. When energy and skill are united with a little money in a small industrial undertaking, economy in management and in details is almost certain to attend it, and out of that combination progress is made and success attained, until the little plant becomes a great establishment, employing hundreds of thousands of capital, and a small army of working people.

It is pleasant to note in this connection, that the proprietors of the Kimball Town Co. announced to the assemblage that witnessed the christening ceremonies a week ago, that one of its enterprises would be the construction of a very large industrial building, which would be furnished with power, with water, heat and light, and would be rented in rooms of such size as might be needed to small manufacturers. Some months since, the MANUFACTURERS' RECORD suggested that a building of this sort should be put up in all the new towns of the South, because it would furnish an opportunity for men of small means, but with the requisite skill and experience to commence business, and to show that it could be done profitably, and when that fact was once demonstrated, there would be no difficulty whatever in securing money enough to enlarge the plant to any dimensions the business might warrant. Referring to this proposed building, Managing Director Kimball said in his address: "I do not mean that we wish to give our entire attention to a few large industries, but we wish to begin to make everything under heaven. We wish to make everything, from fish-hooks and jews harps to watches and steam engines. In the industrial buildings we propose to construct, one thousand persons can be employed, and the interior can be so arranged that any man who desires can rent a room twelve by fifteen in which to manufacture any article he chooses. In that one building we

will have a hundred different manufacturers." This is an eminently practicable plan, and is entirely in the line of the suggestion to which we have referred. The effect of it will be to attract to Kimball a greater variety of skilled mechanics with small capital than have as yet settled in any new town.

Middlesborough's Fire.

In Middlesborough last Saturday, the buildings covering almost the entire business center were destroyed by fire. This seeming disaster, however, will prove a blessing. The houses were, with hardly an exception, built of wood. The town government has now established a fire limit, within which no frame buildings will be allowed to go up. This will ensure the erection of substantial brick and stone stores and office buildings. Besides, the stage of development Middlesborough has reached, and the amount of business done there, together with its assured future as a great industrial city, will warrant the erection of more costly and imposing structures than the two story frame houses burned. We believe that every property holder who lost by the fire, will be better off than he was before, by reason of the increase in real estate values brought about by the improved character of business houses that will cover the burned district.

Mr. A. A. Arthur, the general manager of the Town Co., sends us the following dispatch:

"Our fire, although disastrous, has paved the way for an entire reconstruction of the business part of the city in brick and stone. The corporation has established a fire limit, and contractors are already on the ground arranging for the building of blocks of three and four stories upon the entire burnt district. Unlimited capital has been offered from London, New York and Louisville to the Town Co., and the banks to lend to those who were burned out. Neither Town Co. nor American Association suffered any loss."

From another source we learn that the Town Co. contributed \$5,000 towards the relief of those who were burned out, and that the American Association offers to loan the owners of the houses that were burned, money at the nominal rate of 4 per cent. to rebuild.

A COMPANY has been organized at New Orleans whose purpose is to prepare ramie and other fibres by a purely chemical process. In this process it is claimed that decortivating and degumming are entirely done away with. The green stalks are put through one operation, dried, then put through a second operation, when presto, the fibre is ready for the machinery to spin it. This is the acme of simplicity in manipulation that the fibre trade has longed for, and if it can be accomplished the fibre question, as far as the South is concerned, is settled and another avenue of wealth open to the Southern planters.

Russia a Cotton Producer.

An exceedingly interesting report from Vice-consul Wortheim has just been transmitted to the State Department from Moscow. In it he tells of the great efforts that Russia is making to encourage the cultivation of cotton in some of the provinces of that empire. Some weeks since we had occasion to refer to this matter, and to the effect it might have upon the cultivation of that important staple in the South. The consul says Bokhara is now the most important of all the cotton-growing territories in Central Asia, and is rapidly developing the cultivation of indigenous cotton, of which, from August, 1888, to August, 1889, she sent to Russia over 14,000 tons. Little was produced there until 1864, when the high price paid led to a large increase in its cultivation. Lower prices served to reduce the amount raised, but the opening of a new railway again stimulated its production, and within the past three years the amount shipped previously has been doubled. Khiva raises now six times the quantity of cotton she did a few years ago. It is of high quality, and said to be equal to American upland. In Turkestan the government has a number of experimental stations, at which considerable improvement has been made in the indigenous cotton over that raised by the natives. Fresh American upland seed was freely distributed, together with a pamphlet in the native tongue, giving simple directions for the proper mode of cultivation, and the periodical meetings of the planters were convened for the purpose of exchanging ideas. In Tashkend cotton growing has developed from 850 acres planted in 1884 to 99,000 acres in 1889, increasing the product from 150 tons to 8,600 tons. That Russia is very much in earnest in this matter has long been apparent, and that government from the days of Peter the Great to the present time has always expended money liberally to advance the agricultural and industrial interests of the people. The use of cotton fabrics by the Russians has become so common and widespread that the quantity of cotton employed in their domestic mills, which at the beginning of this century did not exceed 1,500 tons, has now reached the respectable figure of 120,000 tons annually. In view of the efforts that England and Russia are making to secure their cotton supplies from other countries than the United States, it is the more important that the economics of cotton cultivation should be studied more closely than they have been in the South; that the quality of the staple should be improved, and that a larger proportion of the crop should be annually converted into yarns and fabrics at home than has been done in the past.

HOWARD N. ROBERTS, Connellsville, Pa., desires prices on graphite, black lead or plumbago.

A New Source of Bessemer Ore Supply.

[Written for the MANUFACTURERS' RECORD.]

III.

The existence of vast deposits of high-grade Bessemer ore in Llano and Mason counties, Texas, is established beyond question by the conclusive proofs that actual development and careful exploration have furnished. A matter that naturally suggests itself for consideration, then, is the disposition of the ore—the best manner in which the known wealth can be utilized. Under existing conditions it is evident that one very advantageous method of development in this region would be the opening of the ore deposits and the establishment of facilities for shipping the ore to the various iron-making centers, either to those points in the Southern States where Bessemer ores are not at present attainable, or to eastern Pennsylvania in competition with the ores now brought from the Lake Superior region or from foreign mines. While it is probable that this is the direction in which the greatest work will be done, there also exists an excellent opportunity for the establishment of furnaces and rolling mills in the immediate vicinity of the ore deposits to work the crude material up into finished product on the spot. There is a large and rapidly-growing demand for iron and steel in the shape of merchant bars, structural shapes and rails that is being almost entirely supplied from mills without the State, and even the few thousand tons of railroad iron that is rolled in Texas every year is made from material obtained beyond the borders of the State. Texas has 8,500 miles of railroads, a large portion of which is laid with light iron. In steel rails to replace the iron, in rails for renewals and extensions, and in the large miscellaneous demand for iron and steel by the railroads there is alone a large volume of business each year which is now for the most part handled by mills at a great distance from the place of consumption and at a consequent additional cost to the railroads. The railroads of Mexico are purchasers of an enormous amount of material which should be supplied by Texan mills instead of English establishments or American mills a thousand and more miles away. The entire iron trade of the great Southwest belongs by right to Texas and it can be had for the asking.

The only present drawback, and it is not of necessity a permanent disadvantage, is the absence of good coking coal in the vicinity of the Llano iron ore deposits. Future explorations may reveal the existence of suitable coal in an available location, but at present the nearest accessible coking coal is found in the Santa Rosa valley in the State of Coahuila, Mexico, about 300 miles from the Llano region. In that district there is an inexhaustible supply of fine bituminous coal, which carries over 70 per cent. of carbon and yields about 60 per cent. of excellent coke. From the Santa Rosa valley there is rail communication to within thirty-five miles of the town of Llano, and the intervening link is now under construction and being built as rapidly as possible. Or probably a more feasible source of coke supply will be found in the coal districts of the Indian Territory and Colorado. A similar absence of coke has always been the great bar to iron making in the immediate vicinity of the ore deposits in the Lake Superior region, and has necessitated the use of charcoal around the great lakes. But this did not hinder the making of nearly 300,000 tons of high grade charcoal iron by the Michigan and Wisconsin furnaces last year, and in the immediate vicinity of the Llano ore beds there is an abundant supply of timber for charcoal making. Within a radius of ten miles of the town of Llano, there are large tracts of land amounting to thousands

of acres, covered with post oak, which would cut from ten to twenty-five cords to the acre. This timber makes a heavy, firm coal, admirably adapted for blast furnace uses, and fully equal to the coal of maple or hickory. Moreover, exploration is disclosing almost every week the existence of coal in Texas localities where it had before been entirely unsuspected, and it is quite possible that a coking coal may be found easily accessible to Llano. In the neighborhood of the mines limestone can be had in limitless quantities for the cost of quarrying and transportation, which, under the circumstances, is a small item. With the cheap and abundant supplies of ore, flux and fuel, a superior charcoal iron ought to be made in Llano for within \$12 per ton. Without giving further consideration to this feature of the resources of Llano county, the merits of which will make themselves manifest to any practical iron maker, let us turn to the consideration of the district as a source of supply of high-grade steel-making ores for use in furnaces at more distant points.

In considering the development of a deposit of iron ore one of the most important factors in determining the cost is the accessibility of the ore. Perhaps there is no advantage that is more marked than this in the Llano region as compared with the Lake Superior ranges. Almost the entire Lake Superior region is covered with a dense growth of heavy timber, which must be cut before mining operations can be commenced. As a rule the ore veins lie deep in the ground, and before a ton of ore can be shipped a large amount of money must be invested in sinking a shaft, putting in an expensive hoisting apparatus and pumps to keep the working free of the water which everywhere abounds in that region. Very little ore is now mined in the Superior region, except, perhaps, in the newer workings upon the Vermillion range, within less than 200 feet of the surface, and shafts of 500 to 1,000 feet are by no means a rarity. The Pittsburgh mine, which is now being opened on the Gogebic range, does not expect to reach ore above the 350 foot level, while the famous Norrie mine is sinking a new shaft that will be 1,200 feet deep and will not reach ore for two years. Under such circumstances the first cost of opening a mine in the Superior region is obviously very heavy. In many instances it has taken from one to five years to develop some of the best Wisconsin and Michigan properties, at a cost of \$25,000 to \$200,000 in each instance. The expenses of maintenance and operation increase with each lower level that is reached, and at the great depths from which much of the ore is now raised the cost of production is very heavy, to say nothing of the expensive plant that is required for the work. Another factor that should be considered in this connection is the necessity for employing skilled miners in the difficult underground workings in the Superior regions, thus increasing the cost of production as compared with open workings in free, clean ore.

Mr. George H. Ely, of Cleveland, president of the Western Iron Ore Association, in a recent communication addressed to chairman McKinley, of the Ways and Means Committee of Congress, gave the cost of mining the specular ores in the Lake Superior mines as follows, the averages being taken for the last eight years:

Average daily wages per man.....	\$ 2.10
Average total cost per ton.....	2.32
Average labor cost per ton.....	1.60
Average product per day per man, tons.....	1.30

"The difference between the 'labor cost per ton' and the 'total cost per ton' is the expense for tools, explosives, timber, etc."

These average figures are rather within the limit of the present cost of mining ore in the Superior region than outside of it. While these figures may represent the cost of mining in new workings near the sur-

face, they are certainly low for the older mines, where the ore is raised from great depths. Wages in the Superior mines run about like this: drillers and miners, \$2.25 to \$2.75 per day; laborers, \$1.60 to \$2 per day. The small productive value of labor is clearly shown by Mr. Ely's estimate of 1.30 tons per man per day. Regarding the matter from every point of view, mining operations are carried on at great disadvantage in the Superior region, and were it not for the fact that the richness and purity of the ores enables them to bring a good price and pay for long transportation, mining would be far from profitable in that region. During the winter season operations in the open workings must often be suspended on account of the snow and intense cold, and from the day that navigation on the lakes is closed by the ice all the output of the mines must be stocked until spring. Thus expenses continue throughout the winter and an immense amount of cash is locked up in ore that cannot be shipped. For example, the Minnesota and Chandler mines of the Vermilion range piled up 400,000 tons of ore during the past winter while navigation was closed. That represents about \$1,250,000 of cash actually invested in mining expenses and lying idle throughout the winter.

As against these conditions consider the advantages and facilities that exist in Texas. Llano and Mason counties lie more than 1,000 feet above sea-level, in a mild, healthful climate, where the mean annual temperature ranges about 59 degrees Fahrenheit. It is a region of magnificent grazing and farming lands, where living is cheap and where labor can be had at low wages. The great abundance of free ore and the shallow soil reduce the cost of mining to a minimum, and render the employment of high-priced skilled labor unnecessary. Instead of sinking a shaft from 100 to 300 feet, as is frequently necessary in the Superior regions before ore is reached, a shaft can be started in clean ore and shipments can be made from the beginning of operations. The workings that have already been opened near the town of Llano are perfectly free from water, which means an important item of economy, and one not often existing in the Superior mines. It should be borne in mind also that mining and shipping can be carried on without interruption from one year's end to the other. There need be no suspension on account of cold weather, nor stoppage of shipments because of closed navigation, and consequently there is no necessity for locking up capital in a stock pile.

The examinations that have been made and the actual operations that have been carried on in prospecting and developing, show that the ore can be mined at an extremely low cost. There are thousands of tons of clean, free ore on the outcrops that can be prepared for shipment at the mere cost of handling, say from 10 to 20 cents per ton, while \$1 per ton will probably represent the maximum cost of mining and loading in the most difficult veins to be reached by underground workings. These figures are substantiated by the results of actual work that is now being done upon the property of the Llano Furnace & Improvement Co. The next question then is naturally that of shipping facilities.

Llano is at present without rail communication, but the rails of the San Antonio & Aransas Pass Railroad are now being laid between Comfort, in Kendall county, and the town of Llano, a distance of 60 miles. Besides this there are no less than six other lines within such easy distance that they can be and will be extended to Llano as soon as there shall be promise of freight for them. The Austin & Northwestern runs to Marble Falls, only 25 miles from Llano; the International & Great Northern reaches Taylor, 70 miles distant; the Missouri, Kansas & Texas is within the same distance at Belton; the Gulf, Colo-

rado & Santa Fe comes to Lampasas, which is but 41 miles away; the St. Louis, Arkansas & Texas is 80 miles distant at Gatesville, while the Fort Worth & Rio Grande extends to Comanche, 120 miles from Llano. The completion of the connecting link of the San Antonio & Aransas Pass Railroad will throw Llano into communication with Galveston, Corpus Christi, Brazos and the other prospective Gulf ports, from any of which it will be possible to ship ore by water to any desired points. It is believed that the company now constructing jetties at the mouth of the Brazos will have within less than six months a depth of 20 feet to the open sea, which will be increased to sufficient depth to accommodate any shipping. An adequate deep-water harbor here will afford an outlet for the Llano ores with comparatively a very short railroad haul.

The town of Llano, which may be taken as the probable center of development in that region, lies about 225 miles from the Gulf in a direct line. The rail route to Corpus Christi will be about 280 miles and to Galveston, say 317 miles. In the absence of any regularly established traffic, such as the extensive development of the Llano ore region would give, the cost of transportation to tidewater cannot be based upon any existing rates in Texas, but the transportation charges in the lake region, in Pennsylvania and in the iron regions of the South give a basis upon which accurate calculations can be made. To carry the ore from the mines in the Lake Superior regions to the upper lake ports, whence it is taken by steamer, costs from 75 cents to \$1 per ton, including dock charges, or something over one cent per ton per mile. As this is a comparatively short haul, the dock charges figure more largely in proportion to the total charges over this portion of the route than in a longer haul. From Buffalo, Cleveland and the other Lake Erie distributing ports to the Mahoning valley, to Pittsburgh, to the Lehigh valley and other interior points, there is a longer haul at a cost that is but little more than the charge between the mines and upper lake ports. This brings the final haul to the furnaces down to about four-tenths of a cent per ton per mile. Internal or local rates upon iron ore in Pennsylvania are higher than this owing to the control of the situation by the railroads, and the charges range from .77 to 1.61 cents per ton per mile. In the South, however, where the railroads have been more helpful in building up the manufacturing and mining industries, a lower rate of freight charges prevails. For example, from Birmingham to Cincinnati, Louisville or Kansas City, or from Chattanooga to Cincinnati, the rate on heavy raw materials, such as iron ore, ranges from .54 to .74 cents per ton per mile. Such a long haul as from Llano to tidewater would furnish a very profitable traffic to railway lines, even at a very low rate. Heavy ore trains run through from Llano to Galveston, Corpus Christi or Brazos without break could be handled by a few men and at small cost. At one-half cent per ton per mile the traffic ought to pay handsomely. Including dock charges, the cost of landing ore at Galveston ought easily to come within \$1.85 per ton, and at Corpus Christi \$1.65 per ton.

Vessel charters are cheaper at Galveston than at the other Texas ports, owing to the better harbor accommodations and the greater amount of business offering. Should the improvements at the mouth of the Brazos river prove all that is expected there ought to be no discrimination between the two ports except as to vessels drawing more than 13 feet of water, which at Galveston have to pay lighterage charges on their cargoes, an expense that will be avoided at the Brazos. A large proportion of the Eastern vessels that now land their cargoes at Galveston load there with cotton

or go in ballast to Pensacola or elsewhere on the Gulf for lumber. This wastes a week or two of time and vessel owners would be only too glad to take a cargo of heavier and less bulky material at Galveston at lower rates than cotton or lumber bring. If iron ore were to be had to-day at Galveston it would be taken thence and landed in Philadelphia or Baltimore for \$3 per ton. This is not a theoretical rate but the actual quoted figure of a shipbroker engaged in trade between Eastern ports and the Gulf. This rate is much higher in proportion to the distance than the charges from foreign ports to Philadelphia, as is invariably the case with coastwise traffic. The present rate from Cuba to Philadelphia is about \$2 per ton for iron ore, while the average rate from Mediterranean ports to Philadelphia is thirteen shillings, or \$5.25 per ton. The establishment of adequate shipping facilities on the Texas Gulf coast and the development of an extensive and regular trade in iron ore from the Gulf ports would undoubtedly reduce the rate to the east below \$3 per ton.

The figures that have been given show that the cost of shipping iron ore from the mines in Llano county, through Galveston, to Philadelphia ought not reasonably to exceed \$4.85 per ton, all charges included. While these figures are calculated upon the railroad haul of 317 miles to Galveston they also represent very closely the rates that would exist if shipments should be made from Corpus Christi, Brazos or any other convenient port. The possibilities of competition with Lake Superior ores at \$7.50 to \$8 in eastern Pennsylvania are too obvious to require argument.

It is doubtful if many people understand the great benefits that would accrue to dependent industries by the development of the Llano ore region to shipping capacity of 3,000,000 to 4,000,000 tons per year. Cotton, corn and iron are usually cited as the three great staple products of the country, and of these, iron yields by many times over the largest traffic for the railroads in consideration of the limited area which its production and manufacture requires. Let us apply this to Texas. The corn crop of Texas covered 4,573,645 acres last year, and amounted to 83,698,000 bushels, which at 56 pounds to the bushel is equivalent to 2,343,544 tons. The cotton acreage of Texas in 1888, was 4,158,343 acres, and the crop was 806,718,542 pounds or 403,359 tons. On 600,837 acres, Texas raised 6,189,000 bushels of wheat, which at 60 pounds to the bushel equals 185,670 tons. Now then, these three greatest farm crops of Texas aggregated 2,932,573 tons, and as a considerable amount of this must be deducted for local consumption, it will be seen that the railroads did not get even this amount of freight from these big crops. And to produce this freight for the railroads it required 9,332,825 acres of land. Llano county all told does not cover 600,000 acres, and yet in two or three years' time one-tenth of its area could be made to yield more freight for the railroads of Texas than all of the 9,332,825 acres of corn, cotton and wheat. And this, too, without reckoning upon the heavy return traffic that would come with the development and growth of the mining region. For another example of the importance of the ore trade to the carrying companies look to the Lake Superior region again. While the enormous grain trade on the lakes paid the steamers about \$3,120,000 in freights, the coal that passed through Chicago paid \$2,400,000, and the iron ore gave the vessel-owners the handsome sum of \$8,500,000. There is an example for the railroads of Texas and the shipping owners of the Gulf ports.

These facts concerning the mineral resources of Llano county that have been briefly and somewhat roughly sketched do not call for argument in their behalf. They

speaking for themselves, and what they show is a valuable indication of the future that lies before that amazingly rich region of iron ore. There is in that district a vast supply of rich iron ore, low in phosphorus and filling every requirement for the manufacture of Bessemer pig metal. The conditions for making iron on the spot or for mining and shipping the ore to the great iron and steel-making centers of the South and the East, are all that could be asked or desired. The Southern States are not making Bessemer steel or Bessemer pig metal in quantities, owing to the inaccessibility of the Lake Superior ores and the undeveloped condition of home resources. Eastern Pennsylvania is laboring under the heavy handicap of enormous transportation charges upon ores from the Lake Superior regions, and under an equal disadvantage in bringing foreign ores from Cuba, Spain, Africa, Elba and Mediterranean points. The demand for new and increased supplies of steel-making ore is imperative, and here then lies the opportunity for Texas. In the minds of practical men there exists no doubt of the ability of the Llano region to supply the wants of the Southern States and all the Eastern sections that can be reached by water.

GAFFNEY CITY, S. C.

Its Advantages in Raw Materials, Soil and Climate.

GOLD AND IRON CENTER.

[Special Cor. MANUFACTURERS' RECORD.]

GAFFNEY CITY, S. C., June 2, 1890.

Nestling at the foot of the Blue Ridge mountains is this charming and prosperous little city, surrounded on all sides by rich and fertile farming lands, and situated in the midst of one of the finest mineral sections of the Piedmont belt.

Gold is found here in large and paying quantities, and several mining capitalists are now prospecting with a view to the early development of some of these rich deposits.

Iron of the finest quality is to be found in immense quantities, and it will not be long before the needed capital will find this favored spot.

Limestone abounds, and already there are two extensive lime works here with a combined capacity of nearly 500 barrels a day. In addition to these, a syndicate is now being formed to erect one of the most extensive lime works in the country.

The Gaffney City Land & Improvement Co. has just been organized with a capital stock of \$60,000. Mr. A. N. Wood, banker, is the president and treasurer. The company owns over 7,000 acres of good farming and mineral lands adjacent to this place, and will at once cut these lands into small farms and sell them at low prices and on long time to thrifty settlers.

A canning factory was organized a few days ago and the machinery has already arrived. Work will be commenced in time to use the present crop of fruits and vegetables.

The Atlantic, Asheville & Knoxville Railroad, which is now being diligently and energetically pushed, will intersect the Richmond & Danville at this point.

There is water-power unlimited all along Broad river, four miles distant, which is capable of making this section the "Lowell of the South."

With admirable educational facilities, prosperous churches of every evangelical denomination, a climate surpassed by none, fertile soil, rich mineral deposits, Gaffney City is capable of being made one of the foremost cities of the Piedmont section.

F. P. B.

Iron Ore and Manganese.

TREDEGAR, ALA., May 31, 1890.

Editor *Manufacturers' Record*:

I have had fifteen years' experience in the mineral districts of the South, and during that period have examined the red and brown ore districts of Alabama, as well as the mineral regions of North Georgia.

Jacksonville (Tredegar) is in the brown hematite ore district. There the brown ores are embedded in clay in very large deposits, seemingly in almost inexhaustible quantities. I have examined this brown ore district for miles, and here at Jacksonville (Tredegar) I find some of the most extensive beds that I have ever seen. I have put in several cuts on what is known as the Walker property, which is now owned by the Jacksonville Mining & Manufacturing Company. One of these cuts shows the ore to a depth of fifty feet, and at that depth I find the ore to be, if possible, better than at the surface, and that the clay seams, which appear near the surface, are giving way, while the ore assumes more of a fissure form. Other cuts are being put in with the same promising results as to the quality of these ores. From these mines thousands of tons have been shipped by Gen. J. W. Burke, and the ores have an established reputation for high grade car wheel iron.

The Blue Mountain Mineral Railroad, which is now being built from Anniston to Tredegar, and which it is generally understood will be immediately extended directly to Chattanooga, will open up to Tredegar one of the finest ore fields in the United States. From mines along this road, within six miles of town, there can be drawn a supply of ore for almost any number of furnaces, in addition to the great ore beds within the town limits. To the northeast, about five miles, is one of the largest deposits of brown ore known in the State, with thousands of tons of ore on the surface. This is known as the Bottle Green ore bed, now owned by Gen. J. W. Burke, president of the Jacksonville Mining & Manufacturing Company. It is hardly necessary for me to say that I find that the ores in this district can be mined much cheaper than the ores in the red ore district. From what I can learn the greater portion of the ore lands near Tredegar is owned by the Jacksonville Mining & Manufacturing Co.

What I consider to be the most valuable discovery made is that of manganese, which has been discovered on three different properties owned by the same company. For years it was thought that there was no manganese in this district, and it only takes actual developments to remove prejudice.

Now, in order to be convinced, one will only have to visit what is known as the Alexandria property, where there is found a fine quality of crystalline manganese in nuggets, intermixed with the oxides, free from chert or other foreign matter that would be detrimental to the ore, and from all appearances this will excel any other manganese bed found in the South. Next is the Turner property, which is very much like the property just mentioned; and last, but not least, is the bed of manganese on the Walker property at Tredegar. This bed is the oxide, free from chert and silica, the ore being of a very fine quality. I have sunk fifteen feet on this bed with open cut, and have eight to ten feet breast of ore. The north wall is brown hematite ore of a very fine quality. This manganese, to all appearances, is a true fissure, and what strengthens me in the conclusion that this is a fissure vein is, that I find here on the surface stratified manganese of a fine quality, which evidently has come from a vein. I feel sure that the discoveries of manganese made here will only lead to other discoveries on this property. The mineral development of this region is only in its infancy.

T. S. MCDANIEL,
Mining Engineer.

Scientific Town Sites.

[Special Cor. MANUFACTURERS' RECORD.]

LURAY, VA., May 31, 1890.

Up to the beginning of the present era of Southern development the American method in town building has been manifested in the application of enormous "push" and energy to the accidental and unfit. Great results have often been accomplished by the mere brute force and awkwardness of men who have said to one another: "Here we are. We can't get away. The bridges are burnt behind us. Let's make the most of our mud-hole." Aye, it has sometimes happened by making the most of every resource, by unflagging advertising, by going into the by-ways and hedges and compelling them to come in, that considerable cities have been constructed where it would have been a sin to have built a prison.

From this time on cities are to be built according to the natural and eternal fitness of things. The true scientific town is the home-town, and by home-town I do not mean simply a place for people who can cut off coupons. The home-town is a place combining a field for remunerative work with healthfulness, cheerful surroundings and opportunities for recreation to body and brain. The best examples of this kind of town which I have seen have been started in the great State of Virginia. The latest one, but not the least one, is to be Luray.

So far as the loveliness of the region around Luray is concerned, no one but a conceited dolt or a great genius such as is produced not oftener than once in a generation, would attempt to paint a comprehensive picture of it either on canvas or in words. And for a plain, matter-of-fact business reporter, which is all I set up to be, to essay a description of it would be, to put it mildly, a gross insult to mother nature, whom not to love and worship I consider almost a crime; and therefore I shall not attempt to express "the thoughts that arose in me" when first I looked upon that glorious stretch of divinely undulated greensward and woodland, which certain far-seeing men of means and of good executive ability withal, have recently picked out and dedicated as the site of what may be made an ideal home-town—one where there is a great wealth of resources, the development of which will bring even to the wage-worker luxuries of environment in the way of inspiring scenery, clean crystal water and fresh invigorating air, which people who do not live in nature's home-towns annually go rushing and panting, amid discomforts innumerable, to find at great expense away from home.

In this glance at Luray, I am not taking the world-renowned caverns into account. These are known so well that not to have seen them is a confession which every American who has traveled at all should blush to make. They are the property of this company which proposes to build a model city at Luray, and will in themselves within a few years be worth the entire capitalization of that company. For, as railways in this section multiply and as the tide to the southward, now just beginning to flow, shall swell towards its flood, there will come thousands of lovers of Nature (and other lovers) who will spend days at a time revelling in the witchery of this, the last found wonder of the world. If there be any who would learn of it I beg to inform them that there is to be had of the Valley Land & Improvement Co., at Luray, simply by writing, a hand-book of the cavern that can but interest every reader.

Another inestimably valuable possession of the Valley Land & Improvement Co. is the regally appointed Luray Inn, which has no rival that I know of in the State of Vir-

ginia, or for that matter in the South. When one has been a sojourner at the average hotels in the various new towns, to visit some of which is a terrible tax on one's digestion and very constitution, the comforts of such a house of entertainment as this, come to one's soul like the comforts of home to the soul of a soldier who has just returned from a campaign of forced marching for months in a desert land.

Luray's caverns and Luray's palatial inn are, however, but accessories to the general plan of the Valley Land & Improvement Co. The company's town-site and mineral properties are of enormous value. I believe it is admitted by geologists that Page county, of which Luray is the seat, is the richest in minerals within the boundaries of Virginia. If that be true, then it is not incredible that this is the richest county in the United States. The agents of this company had, for months prior to its formal organization, been quietly securing the choicest properties in this marvelous county. When some companies talk about so many thousand acres of mineral land, it may be safely set down that there are a great many more acres of land than of mineral; but in this case I am satisfied that each one of all the eight thousand owned by the Valley Co. is underlaid with what the miners call "pay dirt," either of iron, or manganese, or copper, or red or green slate, or asbestos, not to mention ochre, plumbago and cement rock.

Judge Brand, present judge of the Page county court, with whom I rode over much of this company's land and had fine views of much more of it, told me that in his opinion these mineral properties would sell for as much as the total capitalization of the company so soon as they were "developed"—that is to say, put in a position to show their extent. In this letter I cannot go into details, but there is no question whatever in my mind but that these mineral properties form as substantial a backing to Luray—a foundation to build upon as secure and broad—as the mineral properties adjacent to any town in the South. Then, too, there is a vast area of hard-wood timber in this immediate vicinity.

Thus we have not only a location famous for its health and beauty, but resources to sustain a large population, and, better than both, a strong company to utilize every advantage. The outcome will be many industrial plants. There is a gap in the mountain for a direct air-line railroad to Washington, which it is alleged the Norfolk & Western people will utilize so as to escape paying tribute to other lines on their Washington business. In this connection it must be borne in mind that the Norfolk & Western is now virtually owner of the Shenandoah Valley, which it will use from Roanoke to Luray for its Washington traffic. At present Luray has only the Shenandoah Valley Road, but that road is being managed so as to give the place exceptional advantages as compared with other towns having only a single line of rail. The fact is, the Norfolk & Western is the most active town-building railroad company in America. Another new road from Luray that will surely be built is westward to the coal fields. As I happen to know that such a line will pay, I feel safe in saying it will surely be built, especially since this Valley Land & Improvement Co. is ready to promote the scheme.

This company was organized under one of those extraordinarily liberal charters which were granted by the last Virginia legislature, and the incorporators are men entitled to public confidence. They will look carefully to the interests of stockholders, who will be owners of one of the most valuable properties in the South. In fact, I have heard conservative men express the opinion that good, honest dividends

will be made for the holders of the first million dollars proposed to be issued, from the profits of the cavern and the Inn alone. The town lots cannot fail to bring handsome prices, so that it may be that the company will have no occasion to issue the second million of stock authorized by its charter. However, I shall not attempt to predict what may be wisest in that respect. With half the industries that the company ought to secure with a million of stock sold and a half million worth of lots, Luray should have a population of 20,000 as fast as the houses can be constructed. Ten years ago the census gave the place a population of 641 souls. One big tannery has been mainly instrumental in increasing the population to more than 2,000.

While there are a hundred things that might be said in all truth in Luray's praise, there are only half a dozen which I can now incorporate into this article without making it so long as to cause the average reader to shrink from its perusal. One of the most important points about the place is that the topography of the company's lands makes it possible to build hundreds of factories out of sight of the select residence section, and with ground close at hand for the operatives. These factory sites lie to the northward, and the prevailing southern winds will carry their smoke away from the residences, south of the inn. The correctness of this position is proved by the fact that no smoke or odor from the tannery has ever been perceptible at the inn, which is only half a mile away. Another practical advantage of the same kind arises from the direction of the large, swift-flowing stream that runs across Luray. Thus the charm of the land above the inn, even from the standpoint of the most fastidious and aesthetic of home-seekers, will not in the least be marred by the construction of furnaces and factories along the railroad on the other side of the present town, which will always be a dividing line between the industrial district and that to be occupied by aristocratic homes.

The work of laying off the property into streets and avenues, boulevards and other highways is just being inaugurated under the direction of Alex. V. Lee, of Pittsburgh, who may well be called an artist-engineer. If all the new towns had employed such a man for this kind of work, some one who could make his lines conform to nature's, who knew how to make art enhance the beauty of the situation instead of marring it, a great many dollars in the long-run would thereby have been saved; for it is the worst possible economy for a butcher to be employed to lay off a town—unless, of course, if it is never intended by the owners to build upon it a town.

The water for the new town will come from a great free-stone spring in the mountain that flanks the eastern edge of the valley, and it is stated that this spring in size and gush is almost as much of a curiosity as compared with other springs as the Luray Caverns are as compared with other caves.

But all alluring as is my theme, tempted as I am to endeavor to convey to the reader's mind a faint conception of the glorious panorama to be seen from the tower of the Luray Inn, and prompted as I am by the hospitable treatment I have here received to say a word about honest Tom McCorkle and the broad-minded and clean-handed D. F. Kagey, who is president of the Valley Land & Improvement Co., and of half a dozen others, who conspire to make all visitors to Luray feel at home, I must nevertheless bring this letter to a close. I only hope that I have made clear to my readers what really constitutes a scientific town-site.

THOMAS P. GRASTY.

KIMBALL.

Able Managers of a Gigantic Enterprise.

Strong Assertions by an Eminent British Geologist.

[Special Cor. MANUFACTURERS' RECORD.]
CHATTANOOGA, TENN., May 31, 1890.

It is a week to-day since the christening exercises were held at Kimball. Since then the offices of the Kimball Town Co. have been thronged with people from all parts of the country, and the clerical force has been employed in distributing mail matter and in answering letters, and daily the rush of business increases and the interest in this new development enterprise rises higher and higher.

Never before in the history of any of the great Southern movements has there been such general interest excited in so short a period, but there is good reason for this. No company has ever started before with such men at its head and with such a solid backing behind it. Col. Logan H. Roots, the president of the company, is known throughout the United States as an able, conservative financier, and he has wide reputation also in Great Britain. Of H. I. Kimball, the managing director, it is unnecessary to speak. He made Atlanta, and Atlanta has sounded his praises ever since. Charles P. Richardson, of Chattanooga, several times a millionaire, is vice-president of the company, and Col. J. H. Bryant, president of the Seattle Coal & Iron Co., who has long been noted for his great executive ability and his power to handle large affairs, is treasurer. Mr. George Cooke, president of the Hallett & Davis Piano Co., of Boston, Mass.; Mr. J. R. Stevens, president of the First National Bank, of Huntsville, Ala., and the other Americans who compose the directory of this company, are well known for their caution, their shrewdness and their successful administration of great business interests. Mr. A. J. Morison, a capitalist of London, Eng., has a reputation that extends through the United Kingdom for solid financial sense. Hon. Samuel H. Buck, recently appointed general superintendent, is known throughout the South and in many parts of the North as a very brilliant, executive man. It is no wonder, therefore, that a company in charge of men like these should awaken interest among investors throughout the United States.

The splendid property which this company intends to develop, comprising as it does 100 square miles of territory abounding in minerals and ores and in hardwood timbers, and located in the region that stands midway between the sub-Tropical and North Temperate zones, and in whose fields, as Gov. Taylor well said, blue grass and cotton can be produced side by side, is of itself an attraction beyond the power of words to express. But I am not writing to describe this property or to dilate upon the immensity of its natural resources. The advertisement the MANUFACTURERS' RECORD is publishing tells of all those things in figures that every one can read and understand.

I wish more particularly to call attention to the fact that the distinguished British geologist, who was sent by the capitalists interested in this enterprise to examine the property, and who brought with him to this country as his assistant one of the most accomplished young experts of the United Kingdom, after the most critical and thorough investigation sent a cable dispatch to his clients in London, saying: "McPhail's report confirmed. Go ahead."

It was this elaborate report, made by Major C. C. McPhail to the proprietors of the Sequachee property, that first interest-

ed English capitalists and led eventually to the strong financial organization that has provided a capital of 1,000,000 pounds sterling for the development of Kimball and of the 100 square miles to which that city is the key.

Regarding his exploration of this great territory, Professor Hull said last Saturday to the large assembly he addressed:

"Before coming over to America I had a very small knowledge of the geological structure of this section. We happened to have McFarland's work on the coal fields of America, and, turning to the country about us, I obtained a mass of valuable information from the works of Prof. Safford. Since I came here I have had the opportunity, through the courtesy of Mr. Middleton and others, of examining the resources of this section. It gave me for the first time a clear idea of the physical features of the table lands of this part of Tennessee. I will touch upon the mineral resources of a tract occupying 100 square miles, and referring particularly to the coal. In the table lands to the north of us you will find no less than four, possibly five, workable seams of coal, giving an average thickness of about 12 feet entire. There can be no doubt that those seams of coal, with some variation, pass under the whole of this plateau, and I have calculated that under the extent of the company's territory the amount of coal from those four or five workable seams amounts to no less than 517,000,000 tons. Climbing the summit of the plateau, and going north for a mile or two, we come to another seam of coal. That is the great Sewanee seam, from which all the coke used by the Tennessee Coal, Iron & Railroad Co. at its furnaces in South Pittsburgh and elsewhere is derived. The Tennessee Coal, Iron & Railroad Co. has to send from 15 to 70 miles for that coal; you have it within a mile and a-half or two miles from here. Therefore, as regards coal, the amount on the property of this company is absolutely inexhaustible.

Now I will refer to the matter of iron ore. My colleague, Dr. Hyland and myself, have visited the iron property of this company in Sequachee valley. It occurs in a regular stratum bed of four feet in the upper Silurian limestone. It is perfectly straight, and runs through the company's property for nine miles. There is enough in two miles to keep your furnaces going for the next hundred years. Beside this red ore, there is another mass to which I attach great importance. It is much richer in the quantity of the metallic iron. I understand from analysis it contains no less than 59 per cent. metallic iron, and Dr. Hyland and myself are of the opinion that this ore, mixed with the other, will produce a pig iron suitable for the production of steel of the highest quality. What is to hinder the erection of furnaces on a very large scale in the valley? You have all the raw material, you have the money necessary to erect those furnaces, and I am satisfied you have the brain power to conduct your operations successfully, and with the application of capital and science I see no reason at all why you should not have in a very short time as large a works as you will find in the United States. As regards the other raw products necessary in the building of a city, you have abundance of excellent freestone in those hills and you have excellent loam for making brick. Therefore, if you want to begin your city with brick or stone you have the material at your door.

This site speaks for itself as a location for a town, but there is one point upon which I wish to make a few observations—the question of water supply. It is absolutely essential to the health and prosperity of a large community that there should be pure, wholesome water incapable of contamination, and I can say from my own observation that there are three such springs breaking out along this mountain range, and I

have no doubt that with the proper economy there will be enough to supply the inhabitants of the future city of Kimball. There is one excellence about this spring water—it maintains the same temperature in summer and winter.

There is another point that it is necessary that I should speak upon. This property has been brought under the notice of a strong financial corporation of London. One of the directors of that corporation has been over here and visited the property, and has given his personal statement regarding its capacities. They have also had a remarkable report on the mineral and other resources of this property by the pen of Major C. C. McPhail. That report is so clear and explicit that it might be supposed that no other statement was necessary, but we know that capitalists and those who embark in financial matters are like the ladies, coy and hard to please. They therefore wanted a British geologist to come over and verify his report. That duty was submitted to me, and I am happy to state that my way has been made perfectly clear since I visited the property. I have had frequent opportunities of verifying his report, and in every particular and on every occasion I have found it to be strictly accurate, truthful and honest. I therefore did but yesterday send a cablegram to my clients in London, which I have Col. Kimball's permission to give the wording of. Here it is: "McPhail's report confirmed. Go ahead."

For myself I do honestly believe that there is a great future for this district, and I would only add from my own knowledge and experience that the gentlemen connected with this company are men of rare qualities for the undertaking, and I predict for this enterprise great success and wish it God speed."

The many who have visited Kimball since christening day and have looked over the property with a view of making purchases there when the sale takes place on June 10th and 11th, say that neither Prof. Hull nor Major McPhail has done justice to this remarkable property. One gentleman of large experience in such matters said to the writer that after visiting every new town in the South and looking at them critically, and after having made purchases at many points, he had come to the conclusion that the best features of all were concentrated at Kimball, that it had several distinctive advantages possessed by no other, and that none of the drawbacks that he had found elsewhere could be found there.

SOMETHING new in the town building line has been inaugurated in Virginia. A company has been organized under the name of the Barrow Land Co., with office at Washington, to build up a seaport city on the Potomac river at the point of confluence with the Quantico, 28 miles below Washington. The name of the town is to be Barrow-on-Potomac, and the purpose of its projectors is to make it a prototype of the great English steel manufacturing and ship-building city of Barrow-in-Furness. The site is a plateau overlooking the river and the surrounding country, fronting four miles on the Potomac and three on the Quantico. Besides the varied mineral and timber resources of the locality, it has the added and immense advantage of a harbor greater in extent than there can ever be any need for, with a depth of 40 feet. Among those at the head of the undertaking are Hon. James S. Clarkson, First Assistant Postmaster-General; Hon. W. F. Sanders, United States Senator, Montana; Gen. W. W. Dudley, Washington; Hon. W. G. Veazey, interstate railroad commissioner, Vermont; J. P. Witherow, of Pittsburgh, the furnace builder, and others as well known as these. The company is said to have in contemplation the erection of two charcoal iron furnaces, basic steel works, rolling mills, ship-building works and other plants. The capital stock is \$5,000,000, and the property under control aggregates 52,000 acres.

MINERAL CITY.

This is the Name of a New Town in Virginia.

Its Resources: Iron Ore, Gold, Copper, Pyrites and Timber.

[Special Cor. MANUFACTURERS' RECORD.]
MINERAL CITY, VA., June 2, 1890.

A company has been formed to conduct a development enterprise at this place. Its name is The Mineral City Mining, Manufacturing & Land Co. The Directors are: R. P. Talley, president; Hon. W. H. F. Lee, vice-president; W. R. Goodwin, second vice-president and general manager; P. B. Porter, secretary and treasurer; W. E. Bibb, attorney; W. O. Smith, J. F. Biekers, J. W. Flannagan. The capital stock of the company is \$200,000, par value of shares \$100.

Mineral City is in Louisa County, Virginia, on the Chesapeake & Ohio Railway, 56 miles west of Richmond. Louisa county has come into prominence in the last ten years as a mining section. The Arminius copper mines are located near Mineral City. The shipments from these mines will reach at least 70,000 tons this year. Mr. W. H. Adams, a noted mining engineer, in a recent article on "Pyrites Ores in the Southern States" said in writing of the Arminius and other mines in this immediate locality:

"Both the first and third-named mine properties are connected with the main line of the Chesapeake & Ohio Railway by standard gauge branch railways, constructed and owned by themselves. They are thus in direct communication with all the large cities of the Western, Middle and Southern States, as well as within easy shipping distance of Richmond, Va., 60 miles; also but 150 miles from Newport News and Norfolk, Va., where vessels at all times are obtainable for transport of the pyrites or their products to any coast city of this country or abroad. A peculiar advantage is secured by shipping at these ports, inasmuch as one-third the cotton crop of the South is marketed from Norfolk, and, as ballast in cotton ships, the freight to European ports is never over \$1 per ton, generally less. I have stated in a former article that shipments from the Louisa county deposits for the year 1890 will amount to at least 70,000 tons, which amount can easily be doubled with facilities already at hand. Since the opening of the Arminius mines by the present owners, and their introduction into very general use of the granular ores which this district furnishes in greatest quantities, there has sprung up a settled, orderly, prosperous community of nearly 1,000 souls directly dependent upon the mines for their support, and this number is constantly being increased as the demands for the ores increase. With supplies of ores now in sight, with added investments for the further treatment of these mine products, there will gather about this section many industries which employ labor and build up thriving centers of trade. By this example the merits of Southern ores have met with a recognition worthy of study. Their location and conditions are such as to require no secrecy as to working, no exclusiveness as to values in comparison with the deposits further south. There are no mines in the known world so favorably situated for the consumption of all their products as are these Louisa county deposits."

The company has purchased a fine town-site, which it is laying out in business and residence lots. It has also secured control of some valuable mineral property and several gold mines. One of these, the Slate Hill Gold Mine, was operated before the war. In a recent suit involving this mine it became necessary to introduce evidence intended to show its value. Mr.

H. B. Colburn, an expert, visited the mine, and, after an examination of it, took samples, which assayed \$496 a ton. This was a part of the testimony, and is a matter of record.

In addition to the proceeds of its gold mines and the development of its iron ore property the company will have as a very important source of revenue the sale of town lots. The mining operations now going on, and to be increased, will bring together a considerable population, and the company is going to devote itself especially to the work of procuring factories to be located here. Free sites will be given and other aid extended. The town-site has been admirably selected. The ground is mostly level, with sufficient undulation to ensure drainage. In the distance can be seen the towering "Peaks of Otter." The company announces its purpose to withhold its lots from sale until every share of its stock has been subscribed for, and there is money in the treasury to carry out the plans of development and afford a foundation for real estate values.

There are several mineral springs on the property. A hotel site has been selected, and is one of the finest I ever saw. It is in a grove of forest oaks, about a hundred yards from the new depot the railroad company is building. Plans have been made for the hotel, which officers of the company say will be built within a short time and will cost \$30,000. Reduction works will be established here, also a brick-yard, tobacco factories, a sash, door and blind factory, a planing mill and other industries.

The Mineral City Mining, Manufacturing & Land Co. is offering for sale a part of its capital stock at \$50 a share on easy conditions of payment. Purchasers of stock will get a lot for every two shares when the shares have been paid up, the selection to be determined by a drawing.

CHARLES E. HERBERT.

Cotton-Seed Oil.

Mr. Fred. Gates, of New Iberia, La., whose recent article in the MANUFACTURERS' RECORD on cotton-seed oil was so widely copied, writes us as follows:

"Judging from letters of inquiry received, information asked for, clippings from papers forwarded by mail and samples sent for, I take it that my last letter to you has been pretty extensively copied.

I regret that I neglected to mention the fact particularly that good oil could not be made from damaged seed; and that when the seed is piled in bulk and allowed to remain a few days, it heats, and fermentation sets in, and in a day or two thereafter decay begins. The oil made from seed in this condition is not fit to go into the kitchen. Just as soon as it is heated it emits a very disagreeable odor—musty, funky, rancid, and the housewife is naturally disgusted. Now it is, as the large mills are at present constructed, difficult to separate the good, sound seed from those that have been heated. I suggest that it would be a good idea to arrange it so that when the mill strikes a lot of damaged seed, the oil therefrom can be run aside, and particularly that the mills make a first class quality of oil for cooking purposes. We do so here, and I don't see why other mills can't do the same. We not only separate good from bad oil, but we filter all our oil through flannel and hulls. This is a very simple process, requiring but little, if any, outlay of money. If we wish the people to use our oil we must give them a good article. Putting nothing on the market as cooking oil but the very best, we can afford to let oil stand on its merits with the certainty of winning."

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South cannot find a better medium than the MANUFACTURERS' RECORD.

TREDEGAR.

A Favored Spot for a Large Manufacturing Town.

A correspondent of the Chattanooga Evening News writes to that paper from Tredegar, Ala., as follows:

Few men are better known by reputation than Major Goldsmith B. West, who was chief of the Exploring party which the Baltimore MANUFACTURERS' RECORD had in the field for nearly a year studying and reporting upon the mineral and timber resources of the whole South. When Major West recently announced that he had found what he believed to be the most favored spot in the South for a big industrial city, the statement naturally commanded wide attention, for everybody knew that he had carefully studied every part of the mineral districts of the South from Virginia to Alabama. Convinced of the great possibilities of Jacksonville, Ala., the favored spot, he resigned his connection with the MANUFACTURERS' RECORD to assume the management of the Jacksonville Mining & Manufacturing Co., which has a capital stock of \$1,500,000 and owns in fee about 3,000 acres of as beautiful land for a town site as can be found in the United States and 12,000 to 15,000 acres of the richest iron ore and timber land in Alabama. Jacksonville, which, by way of distinction from Jacksonville, Fla., will in the future be known as Tredegar, is situated in a charming valley having an average elevation of 900 to 1,000 feet, surrounded by heavily wooded mountains. It is the county-seat of Calhoun county, one of the finest agricultural counties, as well as one of the richest in mineral and timbers, in Alabama. The present population is about 3,000. There are many splendid dwellings there—a \$30,000 hotel opened by the company in March, water works, a national bank and other conveniences of a prosperous town. It is the controlling center of the great hematite iron and manganese districts of the South and is but ten miles from Anniston. With the rare combination of inexhaustible iron ore mines from which several hundred thousand tons of ore averaging from 52 to 55 per cent. metallic iron have been shipped without making scarcely an impression upon their surface, a rich agricultural country where grains and grasses flourish almost as luxuriantly as in the blue grass regions of Kentucky, and where on a number of farms herds of Jerseys wade knee-deep in clover, a most invigorating climate, an abundance of freestone and mineral water and a noted health resort, Jacksonville (or Tredegar) possesses possibilities that probably cannot be duplicated anywhere else in the United States.

Since Major West has taken charge of the company he has secured the location of two furnaces, a \$50,000 national bank, electric-light works and telephone system under contract, and is now negotiating with good prospects of an early success for a rolling mill, basic steel works, cotton mill and other industries, and the whole town enterprise will be pushed with a vigor probably never seen in any similar enterprise in the South unless possibly in Middlesborough. There was no attempt made in advance to sell real estate for the purpose of securing money to carry out these undertakings, but having made by their work an actual basis for values, the company has determined to put its property on sale for three days, May 29, 30 and 31, and then withdraw it from the market for not less than 30 days and advance prices. No effort will be made to "boom" prices. In fact the company has wisely decided to restrict prices to very moderate figures, or what might truthfully be said to be very low figures, believing that the future prosperity of the place depends upon every

buyer of real estate securing it at such a figure as to enable him to make a profit should he desire to sell at the great autumn sales, which will be one of the big events of the country.

There is a pressing need for more brick-yards, sash and door factories and lumber mills to meet the demand for building material, and these enterprises, as well as all others, will receive the most liberal encouragement from the company. Tredegar's future as one of the leading industrial cities of the whole South is absolutely assured.

The Steel Plant at Sparrows' Point.

Three years ago work was begun on the plant of the Pennsylvania Steel Co. at Sparrows' Point, on the Patapsco, near Baltimore. Last week, Friday, the president, directors, many stockholders, and a large number of invited guests from Baltimore, Washington, Philadelphia and elsewhere, assembled at the plant to inspect it, and to hold a pleasant reunion on this second anniversary. The great amount of substantial work that has been done in these three years shows that Sparrows' Point is to be one of the world's great iron and steel working centers.

Beginning by the purchase of a large tract of land, worth but little, even for farming, the company has constructed a fine railroad, connecting the property with the various railroad systems of Baltimore, built a substantial wharf, dredged a channel to deep water so that steamships of large size can discharge under the shadow of the great plant, and, finally, has completed considerable work on the great plant itself. The four blast furnaces have an aggregate capacity of over 1,000 tons a day, and two of these furnaces are now in blast. The machine shops and pattern shops are ready for duty, and the steel mill adjoining the furnace plant is nearly ready for work.

Two departments necessary to the completeness of the plant, the rolling mill and the ship-yard, are far from completed, but work on them is progressing rapidly, and it is hoped to have the keels for two steamships laid before many months. About 1,000 men already find employment in this busy center, either as employees in some of the various departments, or as builders, and the population of the town is estimated at 2,500 at least. When the whole plant is running it is believed that 2,500 men will be constantly employed.

In his speech of welcome to the guests Major Bent, president of the company, said: "Without a risk there is no six per cent. interest." In establishing this plant the Pennsylvania Steel Co. made a bold move. What appeared to be a surprisingly great risk was taken, but events have already demonstrated that the move, if bold, was a very wise and far-sighted one. Employment will be given to steamships that will bring 400 or more vessels a year to the wharves of this company, and Major Bent proposes not only to furnish this great amount of traffic, but to build many of the steamships engaged in it and to compete with the world in the construction of vessels. Within another twelve months two steel steamships of large capacity will probably be launched from the Sparrows' Point yard. Part of the plate will be supplied on the ground, but what this plant cannot supply until its equipment is completed will be supplied from the parent plant of the company at Steelton, Pa.

Some months ago the MANUFACTURERS' RECORD described in detail the scope of the plant and the work that had already been accomplished. The revelations made at this anniversary meeting show that even greater results have been accomplished than was anticipated eight months ago. With the completion of the plan as already conceived, an outlay of \$10,000,000 will have been made.

GENERAL NOTES.

At a meeting of the citizens of Jacksonville, Ala., last week it was unanimously resolved to change the name to Tredegar, and resolutions were passed asking the change of the name of the postoffice, railway station, express office and telegraph station.

SAN ANTONIO, TEXAS, was excited over the discovery last week of natural gas near its limits in quantities that promise valuable results. The new well is eight inches in diameter, and furnishes a flow of gas which, when ignited, blazed up to a height of 50 or more feet. Discoveries of gas and oil in that locality have previously been made. A well near the present gas well has for several years been furnishing from 40 to 50 gallons of crude petroleum daily, and is generally used there for lubricating purposes. The discovery of gas is regarded of inestimable advantage to the city, especially in the view of the prospective opening of the Llano iron mines, which are 80 miles northwest from San Antonio.

A MOVEMENT is on foot at Dallas, Texas, to attempt to make the Trinity river navigable. It is believed that it can be made navigable between Galveston and Dallas perhaps all the year round, certainly eight or nine months in the year. Overhanging timber along the banks will have to be cut off, rafts of driftwood removed, and a lock and dam put in at the falls below Dallas. If this is done steamboats of 150 tons burden, that is, 500 bales of cotton capacity, can be run, it is thought, for the year round, certainly eight or nine months in the year.

At Laredo, Texas, last week contracts were signed between the representatives of a New England syndicate and the city of Laredo, whereby the former bind themselves to erect in the city of Laredo a cotton mill to cost \$500,000. The plant is to be entirely new and first-class in every respect. Plans and specifications have been already prepared, and work will commence immediately, it being the purpose of the syndicate, to supply the heavy demand for cotton goods in Mexico and Texas now brought from long distances. The cheap and superior coal-mined at Laredo, splendid climate and ample water, coupled with excellent railroad transportation facilities, give the city an opportunity to supply these extensive and constantly developing markets.

THE sale of lots at Pell City, Ala., last week aggregated about \$75,000.

THE Georgia and Carolina Melon Exchange has been organized at Atlanta. Of 20,000 acres planted in melons this year, it is asserted that the owners of more than 10,000 have signified their intention of going into the exchange. The plan includes the control of the entire crop, which is to be sold in the North through agents. Atlanta is to be the distributing point. The number of car-loads to be sent to each city has been fixed in a way that will prevent any market being overstocked. This year's crop is estimated at 10,000 cars, valued at \$500,000.

A MOVEMENT is on foot in Georgia to organize a Southern Transportation Co., and build 1,000 refrigerator cars to carry fruits and vegetables North and bring beef and other perishable goods South. It will take near \$1,000,000 to accomplish this. Tolls on refrigerator cars have heretofore been almost prohibitive on certain kinds of fruit and vegetables—in some instances last year the charge was \$175 a car from Griffin to New York. The plan is similar to that of a car trust, though it is hoped by the projectors that the cars may be owned

by the growers of the vegetables and fruits shipped, instead of by capitalists and other outsiders.

THERE is not a manufacturing enterprise in Roanoke, says the Times, that is not adding machinery or other facilities to accommodate increasing patronage, while the outlook for the future was never so bright as at present. Crowds of prospectors from all quarters throng the streets, and ask questions relating to investments, indicating that the Southwest is becoming deservedly well known abroad.

THERE was great excitement and enthusiasm at Corpus Christi, Texas, last week. The Port Aransas Pass Co. began its work of dredging a channel through Mustang island 50 feet wide and 10 feet deep, which will permit vessels to enter Corpus Christi bay from the Gulf of Mexico. It is said the channel will be completed within four months, and that \$25,000 will do the work.

At a recent meeting held in Memphis, Tenn., of the bondholders of the Sheffield & Birmingham Coal, Iron & Railway Co., whose property was recently purchased at a foreclosure sale by Napoleon Hill and J. C. Neely, of Memphis, representing the bondholders, it was resolved to reorganize the company immediately on the formal transfer. The property includes three coke iron furnaces at Sheffield and mineral rights in neighboring counties. It is the stated purpose of the interested parties to put the furnace plant in operation at an early date.

ABOUT \$25,000 worth of lots were sold at Lake Otissee Park, Knoxville, Tenn., at auction last week.

THERE was great rejoicing at Johnson City, Tenn., last week when ground was broken for the Johnson City & Carolina Railroad. This makes Johnson City's fifth road.

A LAND sale was held at Cartersville, Ga., last week, business lots selling for from \$20 to \$43 per front foot, and residence lots at corresponding prices.

A NEW and promising land company at Lynchburg, Va., is the Rivermont Co. The company holds properties aggregating about 5,000 acres immediately adjacent to the city of Lynchburg, and 50 acres within the city limits. These properties constitute a compact area on the northwest of the city, included between Blackwater and Ivy creeks and James river, and extending from the corporate line to the Virginia Nail & Iron Works, with a continuous river front of over three miles. After connecting the new with the old city by bridges and electric lines, the company proposes to spend its capital in giving impetus to development by inducing and aiding new enterprises. The company already has assurance which enables it to say that a car plant and other large manufacturing of iron and wood will be removed to its site as soon as the needed improvements can be made. The capital stock of the company is \$3,500,000; the par value of shares \$10.

BUSINESS men at Houston, Texas, are talking about the construction of a canal from Houston across the level prairie to the navigable waters of the Brazos river. After careful investigation it is claimed that such a scheme is entirely practicable and will cost less than \$1,000,000. At this cost they estimate that from the point selected above Columbia, which will give 15 feet of water into the gulf, a canal that will give 14 feet of water all the time can be opened. Houston's altitude is slightly over 30 feet above that point. The estimated width will be 80 feet. Half a dozen leading men have the matter in hand. One

of the first steps will be a survey of the proposed route, upon which future action will be based.

AN extensive cotton mill near Philadelphia has contracted to move all its machinery to Montgomery, Ala. Local and other capital will increase the plant in its new domicile to a million dollar one.

THERE is in the Piedmont Belt of South Carolina, near the corner of four of the richest cotton counties of the State, viz: Laurens, Abbeville, Anderson and Greenville, a fine water-power known as Ware's shoals. It is in the Saluda river, 24 miles below Pelzer's factory, and 30 miles below Piedmont factory. The owners have recently had engineers at work on this property, and their report shows that in three-fourths of a mile they have sixty-eight feet fall, and the water-power at lowest estimate is 10,900, with three different distinct factory sites, any one of which would run over 50,000 spindles. The company owns all the land, embracing 433 acres, surrounding the shoals. The C. K. & W. R. R. is graded by the shoals, and the Richmond & Danville Road runs within four miles of the property, and the Central of Georgia within eleven miles on its P. R. & W. C. branch. The company has decided to develop the power and procure the building of cotton factories. All the cotton needed can be bought from wagons hauling from the surrounding farms.

THE Chattanooga Evening News states that capitalists with \$500,000 to put in a new hotel in Chattanooga are trying to buy a suitable site to build it on.

KIMBALL is to have a newspaper. Mr. Russell Keene, editor and proprietor of the South Pittsburgh Press, will have charge of it.

MRS. M. EDITH HOWCOTT, of New Orleans, probably owns more real estate than any other Southern woman. She has in her own right over 50,000 acres of selected timber lands in Louisiana and Mississippi, and is still buying. She has just completed a purchase of 6,500 acres of hardwood and cypress timber land in Louisiana and 1,000 acres of pine in Texas.

BUILDINGS and improvements now under way in Dallas, Texas, will cost \$2,265,000. Two companies are awaiting action of the city council to commence building suburban street railways to cost \$70,000. In addition to these big undertakings, buildings are going up everywhere in the suburbs. It is stated that within the next six months work will begin on a Catholic cathedral to cost \$120,000, and four large factories, besides a number of fine store and office buildings.

THE real estate sales in Fort Worth, Texas, during the fourth week in May aggregated the sum of \$1,116,963. Tuesday, the 19th, the sales amounted to \$615,794, surpassing the big day in January when the sales amounted to \$615,440.50. The aggregate sales for the month will exceed \$3,000,000, while the sales for 1890 will, it is thought, exceed \$20,000,000.

A SYNDICATE of Houston (Texas) gentlemen is working a coal seam in Erath county, Texas. They found, at a depth of 130 feet, a vein 30 inches in thickness and said to be of a much better quality than has heretofore been supposed to exist in the Southwest. The coal is almost free from waste. It is claimed to be an excellent quality for steam and domestic use and to be suited for making good coke and gas. The shaft is two miles from the Texas & Pacific Railroad main line, and the Houston & Texas Central Railroad has made a survey from Dublin to Gordon, which runs through the land and within 300

yards of the shaft. When this line is finished it will give almost direct transportation to Houston.

A CENSUS of the new town of Harriman, Tenn., shows a population of 800.

TRUCK FARMERS.

A Colony to be Established in Alabama.

The oft repeated arguments made by the News in favor of Calhoun county as a locality favorable for the profitable production of vegetables and small fruits is about to receive a practical demonstration at the hands of a company amply able to carry through its plans.

The Tredegar Land & Improvement Co. has among its possessions several hundred acres of fine farming lands favorably situated for small crop culture. These lands lie near Tredegar, but not near enough for practical utility at present for any other branch of industry than the cultivation of the soil.

It has long been a favorite idea of Mr. Goldsmith Bernard West, the able and practical manager of the company, to establish somewhere in the South a number of small farms fitted up exclusively for the culture of small fruits and vegetables and the profitable conducting of a general trucking business. After he became connected with the company and learned of these lands, he at once determined that they should be applied to the development of his long cherished plans—a determination which found a hearty second in President Burke and other members of the company.

The lands will be laid off into small farms under the general supervision and management of the company. First-class gardeners and truckers will be placed in charge, and each farm will be so conducted as to furnish an object lesson to agriculturists, and at the same time yield the greatest revenue possible for the tillers.

A canning establishment will be an adjunct to this enterprise, so that the surplus, if any, after supplying Birmingham, Tredegar, Anniston, Piedmont and other surrounding towns and cities, will not be lost.

This movement is a long step in the advancement of the development now going on in Calhoun county. The mineral resources of our county are destined to soon fill it with a mining and manufacturing population. These must, of course, be fed from the soil, and Calhoun is exceedingly fortunate in having that soil in abundance within her own boundaries.

The fruitful valleys of the Choccolocco, Alexandria, Tallasahatchee, and the Piedmont region, are amply able, under close and careful cultivation, to provide food for all the enormous increase of population which the next few years must of necessity bring to this favored county—a county rich in ore, in climate, in soil, in water, in health, in advantages of transportation, and in all those features desired by thrifty, intelligent people.—Anniston (Ala.) News.

THE owner of a woodworking establishment in Florida writes under date of May 26:

"Yours of 22d instant to hand. In reply will say it is true we contemplate removing our plant. How in the world did you find it out, as we only decided on the 20th of this month to move?"

Our correspondent is not alone in his surprise at the promptness of the MANUFACTURERS' RECORD in getting hold of news.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4.00 a year.

CHRISTENING SALE AT KIMBALL.

Marion County, Tennessee.

Tuesday and Wednesday, June 10 and 11, 1890.

A Gigantic Enterprise Inaugurated.

CAPITAL, - £1,000,000. DEVELOPMENT FUND IN CASH, - \$2,000,000.

GUARANTY FUND " - 500,000.

KIMBALL TOWN COMPANY.

DIRECTORS.

HON. LOGAN H. ROOTS, President of First National Bank, Little Rock.
CHARLES P. RICHARDSON, Capitalist, Chattanooga.
J. R. STEVENS, President First National Bank, Huntsville, Ala.
A. J. MORISON, Capitalist, London, England.
J. H. BRYANT, President Seattle Coal & Iron Co., New York.
GEO. COOK, President Hallet & Davis Piano Co., Boston, Mass.

H. I. KIMBALL,

Vice-Prest. & Managing Director.

HON. H. L. COCHRAN, Judge Probate Court, Fort Payne, Ala.
H. I. KIMBALL, Atlanta, Ga.

OFFICERS.

President, HON. LOGAN H. ROOTS.
Vice-President, C. P. RICHARDSON.
Second Vice-President and Managing Director, H. I. KIMBALL.
Treasurer, J. H. BRYANT.
Assistant Treasurer, ED. E. RICHARDSON.
Secretary, W. E. DONALDSON.
Assistant Secretary, W. BROOKS COVELL.

ATTORNEYS.

W. E. DONALDSON, Kimball.
SHEPHERD, WATKINS & BATES, Chattanooga.

ENGINEERS.

Landscape Engineer, NATHAN G. BARRET.
Resident Engineer, W. J. KELLY.
Sewerage and Electrical Engineers, NIER, HARTFORD & MITCHELL.
Hon. SAM'L H. BUCK, Gen. Superintendent.
OFFICES.
Richardson Building, Chattanooga.
Union Trust Building, 80 Broadway, New York.
Company's Building, Kimball, Tenn.

For Religion and Education.

At the Christening and at all subsequent sales of lots in Kimball by the corporation, ten per cent. of the gross proceeds will be set apart for religious and secular educational purposes, one-half to each. Every person buying one or more lots will be permitted at the time of purchase to state to what church or denomination in Kimball he prefers that five per cent. of his purchase money shall be appropriated. The other five per cent. will go into a fund for educational purposes, the first object being the establishment and maintenance of a scientific school.

The Entire Executive Management

has been entrusted to HON. LOGAN H. ROOTS, of Little Rock, Ark., President; C. P. RICHARDSON, Chattanooga, Vice-President, and H. I. KIMBALL, late of Atlanta, Second Vice-President and Managing Director.

The Christening Sale of Lots

June 10 and 11 will be without reserve to the highest bidder. That sale will establish their minimum value. No contiguous lots or blocks of lots will thereafter be sold in Kimball by the corporation, except at an advance on the prices then established.

While the Anglo-American Corporation (Limited) and the Kimball Town Company are sternly opposed to speculative monopolies, and will do nothing to encourage them, they will also sustain standard prices on their real estate.

Cheap Transportation.

Arrangements have been made with the railroad and steamboat companies to give the lowest excursion rates to all attending the sale, **June 10 and 11.** Particulars and prices will be given by all passenger and ticket agents.

Real Estate, 64,000 Acres,

With a frontage of three miles on the navigable waters of the Tennessee River. **550,000,000** tons Red Fossiliferous and Brown Hematite Ores.

Six workable veins of Coking Coal, estimated at 800,000,000 tons, containing 74 per cent. of fixed carbon.

Hardwood Forests, said by experts to contain 817,950,000 feet of merchantable lumber.

Numerous Mill and Factory Sites, with an immense aggregate water-power.

Springs of Pure Freestone Water on the mountain side three to six hundred feet above the city, sufficient to supply a population of 100,000.

Climate mild, uniform and salubrious in the lovely Sequachee Valley, 740 feet above the sea level.

Transportation by the Tennessee River, by the Nashville, Chattanooga & St. Louis Railroad and, in the immediate future by the East Tennessee, Virginia & Georgia System.

Kimball Offers

Solid, practical inducements to manufacturers. First-class enterprises under good management will be guaranteed, one-half the cash required. Local taxes will be remitted for a term of years. Lowest freights and cheapest raw materials will be secured.

Auxiliary Companies

will be organized by the parent corporation for developing the wealth of the Sequachee Valley and for supplying the city with heat, light, water, power and transportation.

A Mammoth Industrial Building

will be erected by the Kimball Town Company, which will have power, light and heat, that will be supplied to manufacturers on the most liberal terms.

J. A. ODELL, D. W. C. BENBOW, J. A. GRAY.

A. B. ANDREWS , Second Vice-President R. & D.	THEO. F. KLUTTZ , Attorney at Law and Pres-
R. R. Company , Raleigh, N. C.	ident Yaddin R. R. Company, Salisbury, N. C.
JAMES A. ODELL , President Odell Hardware	JULIAN S. CARR , President Blackwell's Durham
Co. , Greensboro, N. C.	Co operative Tobacco Company , Durham, N. C.
JULIUS A. GRAY , President Cape Fear & Yaddin	D. W. C. BENBOW , Greensboro, N. C.
Valley R. R. Company , Greensboro, N. C.	ROBT. T. GRAY , Attorney at Law, Raleigh, N. C.

pl. The inauguration of a general development and town building enterprise, starting with an attempt to secure the location on its property of iron, wood, textile and other industries, thus bringing together an aggregation of factories and stores, and a continually increasing population, with the resulting need for land for business and residence purposes.

The Company, after much deliberation, fixed upon Greensboro as being by far the most desirable place for the location of its works. It was selected because of its central location, its important railroad connections, its equable climate and remarkable healthfulness, its thrifty, enterprising and progressive spirit, and its unsurpassed advantages for general manufacturing. It is on the main line of the Richmond & Danville system, one of the greatest North and South lines. It is on the Cape Fear & Yorklin Valley Road, which, with the recent completion of its extension from Fayetteville to Wilmington, and the connection to be made next year at the State line near Mt. Airy, with the Norfolk & Western, will be an East and West trunk line, furnishing connection with the West, and a tidewater outlet. Another outlet to the sea will be afforded by the road the Richmond & Danville Company

With the impetus given it by this enterprise and with its advantages for iron and steel making and the manufacture of products using these as raw material, its advantages for woodworking shops of every sort, for textile industries and for manufacturing in general, together with its attractions as a place of residence, Greensboro ought to become one of the most important centers of industry in the South, the industrial and commercial metropolis of North Carolina.

Before announcing its purpose the Company, through its agents, secured options on about 2,500 acres of very desirable property adjacent to Greensboro, some of it being within the corporate limits, and the whole of it being in an almost solid body. About 1,500 acres have already been purchased, and the remainder is being taken up as the options expire. The whole of it has been secured at an average price of \$35.00 an acre. This is no more than has been paid for the town site lands on which most of the industrial towns of the South have been built up, and in comparison with which this has the immeasurable advantages of extensive railroad connections and facilities unexcelled by any of them, an attractive, progressive town of 7,000 people to start with. Water works, gas works, electric light works, paved streets, churches and schools, elegant houses, an established society, and all the attractions that pertain to an old community.

"The city now containing 7,500 people, is at the crossing point of three railroad systems, giving inlet and outlet from and to six different directions, and with other lines in prospect. The Cape Fear and Yadkin Valley Road passes through iron bearing formations from Sanford, through Greensboro to Mt. Airy. The North Carolina Road is in iron bearing formations from near Durham through Greensboro to Wilkesboro, and is to be extended through Cranberry Iron Gap at an early day, while the main Richmond & Danville Road is in sight of mineral formations from Lynchburg, through Greensboro to Charlotte and King's Mountain, and via Salisbury to the Blue Ridge and French Broad iron ores.

Foundries and machine shops to further utilize the iron and steel products should come with the furnace and mill, and then car shops and other enterprises to use the iron in connection with the fine timber regions to which Greensboro has such easy and cheap access. Greensboro is the best converging point for a large territory that is rich in iron ores, coal and timber, and if these resources are properly availed of, there is a large development in sight.¹⁰

Judging from the experience of other development enterprises, it would seem to be within a reasonable and conservative limit to expect within two years to realize from sales of lots, covering a comparatively small part of the total area of land purchased, an aggregate sum equal to the capital stock of the company. This, when added to the expected profit from this company's furnaces and other works, makes the opening for the investment of capital one of the most inviting that has been presented to the public since the beginning of the present industrial era in the South.

The company will build at once two furnaces, one to make Bessemer iron and the other mill and foundry iron.

	Metallic Iron.	Phosphorus.
Prof. W. C. Kerr's report.....	57.41	none
.....	58.67	none
Dr. O. D. Allen.....	59.63	.724
.....	54.90	none
.....	53.95	none
.....	57.13	none
.....	55.74	none
.....	53.95	.275
Crane Iron Company.....	53.16	1.531
.....	60.90	.319
Booth, Garrett & Blair.....	56.17	.430
.....	59.90	.693
S. A. Richards.....	67.48	none
.....	68.74	none
.....	57.58	none
Prof. F. A. Genth.....	59.95	none
.....	67.60	none
.....	57.13	none
H. B. Nye.....	54.80	.276
.....	58.90	.693
Frederick H. Smith.....	59.63	none
.....	60.43	.05

2. Particulars as to time of payment, &c., address the company at Greensboro, N. C.

PIEDMONT, ALABAMA.

* Delaware's Southern City. *

IN THE VERY HEART OF BROWN IRON-ORE DISTRICT.

Full Paid Capital of the Piedmont Land & Improvement Co. \$1,250,000

Large Portion of which will be Employed Establishing Great Industrial Plants.

The following enterprises and industries are guaranteed by the **PIEDMONT LAND AND IMPROVEMENT COMPANY**, all of which are now well under way:

A 50-ton Charcoal Iron Furnace.

A large iron Rolling Mill.

A Car Wheel Works.

Three Saw Mills.

An excellent system of Water Works.

The best system of Electric Lights.

Graded and Macadamized Streets.

A \$35,000 Hotel Building.

A Bank Building, (for Bank of Piedmont),
the finest in Northern Alabama.

The Piedmont Land and Improvement Company have also closed contracts with two Eastern capitalists, who will at once erect forty dwelling houses, to cost not less than \$1,400 each, which will represent, when completed, together with the ground covered, an investment of over \$100,000.

These will be followed in the near future by the following, negotiations for several of which are now nearly completed:

Two 100-ton Coke Iron Furnaces.

A Basic Steel Plant.

A Large Planing Mill.

A Carriage and Wagon Factory.

A Passenger Car Works.

A Sewer Pipe Works.

A Brick Works, and several other industries.

Such are a few of the many advantages that Piedmont offers to the manufacturer and to the investor, who are cordially invited to come and examine for themselves.

FOR ADDITIONAL INFORMATION ADDRESS

Piedmont Land & Improvement Co.
PIEDMONT, ALA.

FACTS ABOUT FLORENCE.

LOCATION.

Florence is in North Alabama, near the Tennessee line, on the Tennessee river, which is navigable here for large steamers. It is on the Memphis & Charleston Railroad, and the Nashville & Florence branch of the Louisville & Nashville Road.

AGGREGATE OF ADVANTAGES.

There are many places in the South possessing the advantages of a good climate, healthfulness, natural resources and manufacturing capabilities more happily combined and in a higher degree than can be found in any other part of the country. It is believed, however, that at no point in the South, and hence nowhere in America can there be found an aggregate of so many unsurpassed advantages and attractions as exist at Florence.

IRON AND COTTON MANUFACTURING.

Florence can make iron as cheaply as any place in Alabama. It has facilities for the manufacture also of cotton goods equal to those of any other place. Anything that uses wood as a raw material can be made here at as low a cost as anywhere in the South.

Thousands of acres of iron ore of a high grade within a few miles of Florence are owned by Florence companies. Limestone is quarried within the town limits. There is enough of it to last for ages.

Cotton mills would get a large part of their supply from the country around Florence. Cypress creek furnishes water power and mill sites enough to make Florence the Lowell of the South.

North of Florence, and up the Tennessee river, there are large areas of timber, embracing a wide variety of hardwoods—forests that the axe has never touched.

COMMERCIAL AND AGRICULTURAL FACILITIES.

Besides its industrial possibilities, Florence is a point of great commercial importance, and is becoming the center of an extensive mercantile business. It has the advantage of both rail and river transportation and of competing railroads. Several additional railroads are now under construction to open up new trade connections to Florence.

Florence is surrounded by a wide extent of fertile and productive country, as well adapted for farming, stock raising, fruit growing, truck farming, dairying, &c., as any in the world. Further, it has a climate that is delightful the year round. Its health record cannot be surpassed. It has no malaria. In fact, people who live here enjoy a remarkable exemption from ailments of every sort. It has an abundance of the purest water.

BEAUTY OF LOCATION.

For beauty of location Florence is without a peer. The Tennessee river at this point is as romantic and beautiful as the Hudson. The rolling character of the country, the slopes and hills and alternating valleys furnish a picture to charm an artist's eye. The lovely Cypress creek, a deep and rapid stream emptying into the river just below the town, presents at every turn in its tortuous course a scene of entrancing beauty. The views from some of the higher hills are as fair as the eyes of man ever rested on.

Limited space allows here only the briefest summary of a very few of the more important facts about Florence. For more detailed information write to either one of the following companies. Or better still, come down and see for yourself. Investigation is all that Florence asks or needs.

Lauderdale Manufacturing Co. Florence Cotton and Iron Co.
Florence Investment Co. Florence Railroad and Improvement Co.

GROWTH.

Florence is making more rapid progress, proportionately, than any other town in America. This is a strong statement but it is true. And its growth is on a solid and permanent basis.

SOLID GROWTH.

Florence is not undergoing any wild real estate boom. Its managers are not seeking to advance real estate prices. It is not their plan to get a quick return for the money they have invested, by the rapid sale of lots at unnatural prices. It is their aim to first build up a town, to locate factories and secure a permanent population, when land will have an actual value and sell at prices from which there will not be a subsequent disastrous reaction. At present real estate is much lower in price than in any other town in the South that has made half the progress Florence has made.

THIRTY NEW ENTERPRISES.

Within the last 12 or 15 months over 30 new industrial enterprises have been located at Florence, with an aggregate cash capital of about \$5,000,000. This remarkable growth is the result of efforts to induce people to simply investigate the attractions of Florence. Investigation and comparison with other places, on the part of any who are looking for a place in the South to locate, will in nearly every case result in the selection of Florence.

INDUSTRIAL ENTERPRISES IN OPERATION.

The following are some of the industries in Florence. Some of these are in operation; others are nearly ready for work and others have but recently commenced work on their buildings: One of the largest and best furnaces in the United States now in blast, and another under construction; a stove factory; a hardware company, with a capital of \$300,000, manufacturing fine building hardware, &c., the only factory of the kind in the South; a wagon factory, with capital of \$150,000; agricultural implement works; handle factory; woodenware factory; sash, door and blind factories; a cedar bucket factory; a pump factory; planing mills; a factory to make wooden butter plates such as grocers use; a flour mill; a cotton mill in operation, and a \$500,000 mill building and others projected; a jeans factory; a gingham factory; a woolen mill; a cotton gin; a marble company; a roofing and paint company; a shoe factory; a suspender factory; a compress, packet and ferry company; building and loan companies; a canning factory; brick factories; a dummy railroad company, and a number of other enterprises.

\$15,000,000 INVESTED.

The aggregate capital of the industrial, mercantile and development enterprises in Florence exceeds \$15,000,000.

A year ago the population of Florence was 2,000. It is now about 10,000.

There are more than 1,000 carpenters at work in Florence but they can't build houses fast enough to keep up with the increase in population.

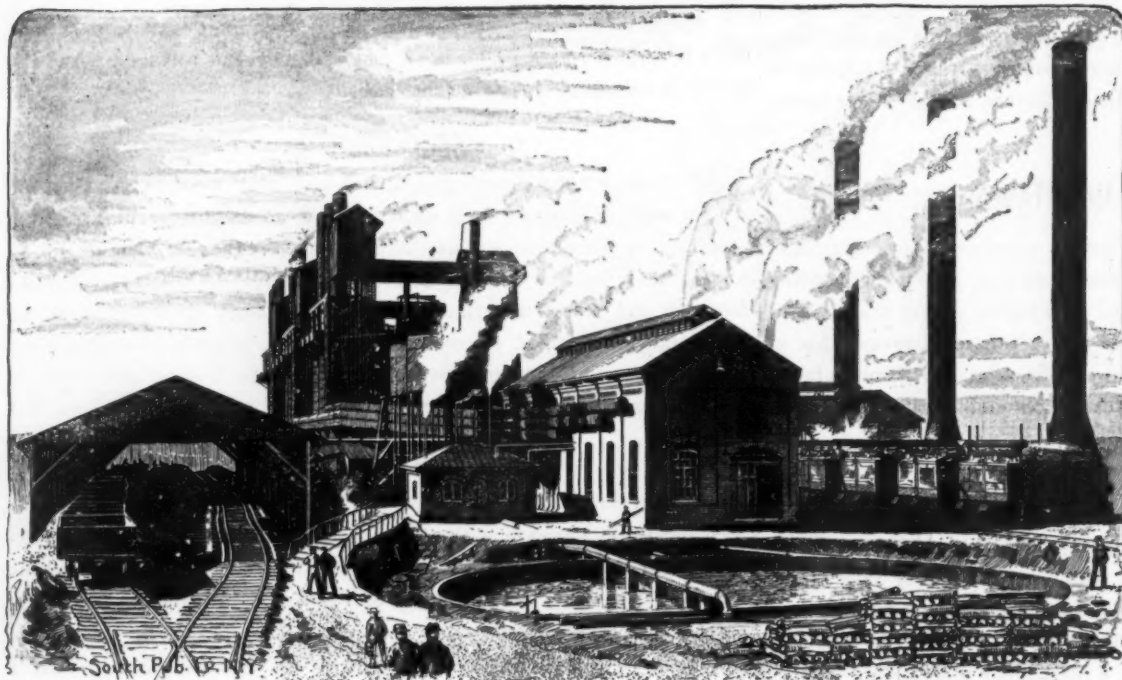
INVESTIGATION AND INVESTMENT.

A number of the foremost capitalists and iron and cotton manufacturers, and others, of Philadelphia, Boston and other Eastern cities, after a thorough personal investigation, have just made heavy investments aggregating several million dollars in Florence.

Florence, Ala.

SHEFFIELD, ALA.

THE SUPERB.



At the Headwaters of Deep Navigation on the Tennessee River, the Hudson of the South.

The Largest Producer of HIGH-GRADE Pig Iron of any City in the Entire Industrial South.

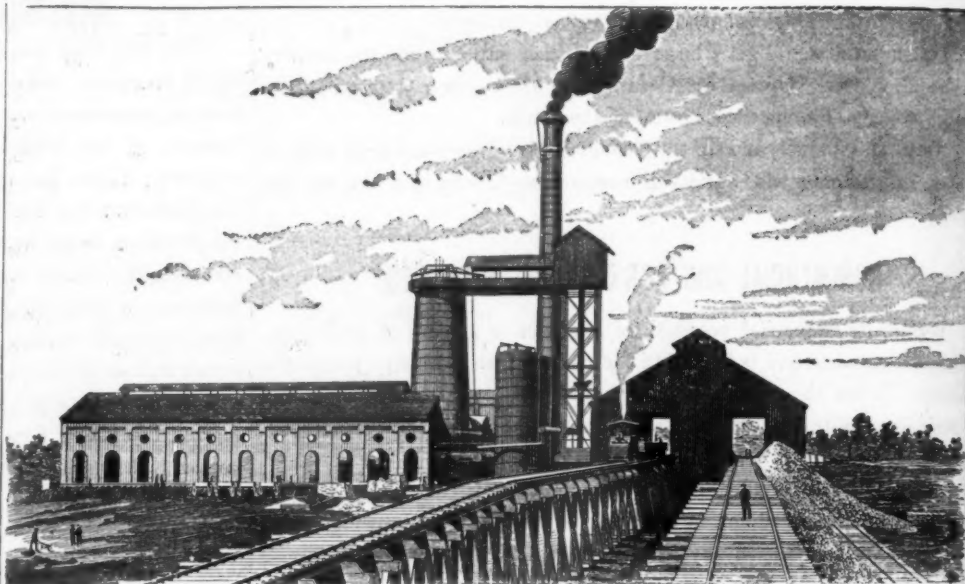
The only point in the South that has or can ship pig iron to the cities on the Mississippi, Missouri and Ohio rivers by boat or barge without rehandling. This last shipment of 5,000 tons of Pig Iron to Pittsburgh, Pa., by barge was made at a saving of \$2.65 per ton over what any iron-producing city of the South has done or can do to-day.

Five Large Blast Furnaces

Capacity 750 tons pig iron per day.

The following are among the corporate and private enterprises that belong to Sheffield:

The Sheffield Land, Iron & Coal Co., capital \$1,000,000.
 The Sheffield & Birmingham Coal, Iron & Railroad Co., capital \$1,000,000; the owners of three 150-ton blast furnaces.
 The Birm., Sheffield & Tenn. River Railway Co., capital \$5,000,000.
 The Hattie Ensley Furnace, capital \$200,000.
 The Lady Ensley Furnace Co., capital \$200,000.
 The Electric Light & Gas Fuel Works, \$50,000.
 The Sheffield Ice Co., capital \$25,000.
 The Sheffield Manufacturing & Constructing Co., \$30,000.
 The Sheffield Contracting Co., \$60,000.
 The Eureka Brick & Lumber Co., \$30,000.
 The Howard Brick Co.
 The Sheffield Bakery & Bottling Works.
 The Sheffield Mineral Paint Co., capital \$50,000.
 The Sheffield Agricultural Works, capital \$40,000.
 The Sheffield Cotton Compress Co., \$60,000.
 Millan Brothers, Steam Laundry.
 Enterprise Publishing Co.
 Water Works, already expended, \$30,000.
 Sheffield Street Railway Co., capital \$100,000.
 Cleveland Hotel Co., capital \$50,000.
 Sheffield Hotel Co., capital \$120,000.
 Bank of Commerce, capital \$150,000.
 East Sheffield Land Co., capital \$500,000.
 Hull & Keller's Fern Quarries.
 Mobile Real Estate Co., capital \$50,000.
 Sheffield Real Estate Co., capital \$50,000.
 Sheffield & Mobile Improvement Co., capital \$100,000.
 Sheffield Stove Works.
 Henderson Milling Co., capital \$100,000.
 Globe Iron & Brass Works, capital \$10,000.
 Standard Machine Shop & Foundry, capital \$50,000.
 Owen Pink Mixture Co., capital \$100,000.
 Bell Telephone & Telegraph Co.
 Foulds' Shoe Factory, capital \$20,000.
 Enterprise Wood Working Co., capital \$30,000.
 Buchanan Straw Goods Factory, \$25,000.
 The Sheffield Harness & Saddlery Co., capital \$20,000.
 Principal Shops of the Sheffield & Birmingham Railroad.
 Principal Shops Memphis & Charleston Railroad, now being built.



Aside from the foregoing the following are in course of construction and may be considered positive: Principal Shops of the Memphis & Charleston Railroad; Principal shops of the Nashville, Florence & Sheffield Division of the Louisville & Nashville Railroad. Reasonably certain to be secured in the near future are the following, in regard to which negotiations are pending: A Rolling Mill; Large Machine Shop; A Cotton Mill.

ALABAMA'S IRON CITY.

The Superb Location at the head of navigation on the Tennessee River, commanding the outlet to immense fields of IRON ORE and COAL and magnificent tracts of the finest Timber. Has already attracted to the spot where three years ago in a cotton field her projectors set the stakes of a new city, capital and people, unequaled in amount and number, circumstances considered, by any of the so-called new cities of the South.

With eight Church Organizations, two Free Public Schools, Postoffice, Telegraph and Express offices and abundant facilities of transportation by river and rail. It has every advantage as a residence city that can be desired.

Good Water; Drainage Excellent; Health and Climate Unsurpassed. Free Public Schools and Churches. Splendid opening for men of push and energy. No better point for profitable investment. No "Old Foggy" element here.

Sites for Manufacturing Enterprises

And for Free Public Schools and Churches

Donated by the Sheffield Land, Iron & Coal Company.

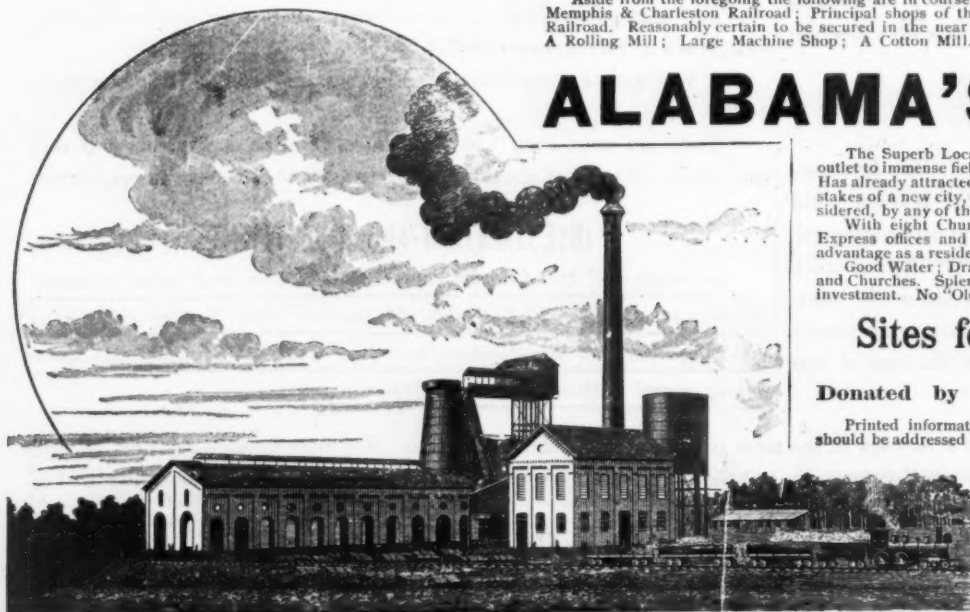
Printed information furnished on request. Correspondence solicited. Communications should be addressed

W. L. CHAMBERS,

Vice-President and Manager.

Sheffield Land, Iron & Coal Company,

SHEFFIELD, ALABAMA



TREDEGAR,

Tredegar offers the most inviting field in the United States for the establishment of manufacturing enterprises.

It has unequalled advantages for Iron and Steel Works, such as Furnaces, Rolling Mills, Machine Shops, Foundries and everything using iron.

Car-Wheel Works, Car Shops.

Cotton Mills, Knitting Factories, and other Textile Industries.

Cotton-Seed Oil Mills and Fertilizer Factories.

Woodworking Industries of every sort, Saw and Planing Mills, Sash, Door and Blind Factories, Furniture Factories, Handle and Spoke Factories, Agricultural Implement Works, Carriage and Wagon Factories, &c.

Brick Works for making Building Brick, Vitrified Brick, Fire Brick, &c.

Sewer Pipe Works.

And many other industries.

The most liberal inducements will be offered to those who desire to locate such industries.

Here are found the finest Hematite Iron Ores in the South.

Extensive Manganese Deposits that experts from Pennsylvania and elsewhere believe to be the greatest in the United States.

Vast Forests of Fine Timber, Pine and many varieties of Hardwoods.

Never-failing Mountain Springs with a daily flow of many million gallons of the purest Freestone water, besides Sulphur, Chalybeate and other Mineral Springs.

A climate that has no superior for all the year; malaria is unknown, and the nights are cool even in midsummer.

A Fertile Agricultural Country, where cotton, grains, grasses, fruits and vegetables yield abundant crops, and where fine Jerseys wade knee-deep in clover.

A population of 3,000, churches of all denominations, excellent schools, charming society.

A National Bank, Water Works, Fine Hotel.

Will build Two Furnaces, Rolling Mill and probably Basic Steel Works, Cotton Mill, &c.

For particulars address GOLDSMITH B. WEST, General Manager JACKSONVILLE MINING & MANUFACTURING COMPANY, Tredegar (Present Postoffice, Jacksonville), Alabama.

ALABAMA.

DALLAS, TEXAS,

OFFERS SPECIAL INDUCEMENTS TO

Manufacturers and Investors.

Dallas has a Population of Over 60,000 People,

And being the commercial and financial center of the richest country in the United States, it affords a large home market for manufactured articles; and being well situated for cheap fuel with abundant raw materials, cheap homes for employees and unsurpassed railroad facilities to all parts of the State and all adjacent States and territories, it is undoubtedly one of the best places for manufacturing in the southwest.

The Dallas Manufacturers' Aid and Improvement Co.

Has been organized for the purpose of promoting manufacturing. The Company has purchased 400 acres of land in North Dallas, near the city limits. This land is elevated, has good drainage and an abundance of fine water, and has ample railroad and switch facilities. A part of this has been set apart to be used as **Sites for Factories**, and a part will be **Platted into Lots**, which will be sold to operatives, or on which houses will be built to be rented to operatives.

The company will take stock in manufacturing enterprises, and will give sites **FREE**. The company is composed of the leading bankers and merchants, the wealthiest and most progressive citizens of Dallas. With all the natural advantages possessed by this locality, supplemented by the inducements that will be offered by this company, the opportunity presented to manufacturers is an extraordinary one. For information write to the

Dallas Manufacturers' Aid and Improvement Co.

711 Main Street, DALLAS, TEXAS.

BEDFORD CITY LAND & IMPROVEMENT CO.

BEDFORD CITY, ^{LAT} LIBERTY, VA.

By special act of the Legislature of Virginia the Bedford City Land & Improvement Company was chartered with the most liberal grants of power. The company has been fully organized.

AUTHORIZED CAPITAL - - - \$1,000,000.

JAS. M. BERRY, (of Berry Bros., Tobacconists,) **President**.

R. B. CLAYTOR, (of R. B. Claytor & Co., Merchants) **Vice-President**.

J. LAWRENCE CAMPBELL, (of Burks & Campbell, Attorneys-at-Law,) **Secretary**.

S. M. BOLLING, (of Bolling, Wright & Co., Tobacconists,) **Treasurer**.

BOARD OF DIRECTORS:

MARTIN P. BURKS,	R. B. CLAYTOR,	J. M. BERRY,
C. W. WHARTON,	J. LAWRENCE CAMPBELL,	T. D. BERRY,
S. M. BOLLING,	SAMUEL GRIFFIN,	W. W. BERRY,
DR. W. W. SMITH, President of Randolph-Macon College,		
REV. A. E. DICKINSON, D. D., Editor of the Religious Herald, Richmond, Va.		

The Company is solvent and its business is conducted on the soundest business principles. It is not engaged in wild booming.

Only \$300,000 worth of stock has been offered to the public.

The Company owns nearly 800 acres, containing the best residence, business and manufacturing sites. The stock which is offered is in ten-dollar shares, payable \$2 per share cash when subscribed, \$1 each thirty days thereafter, until \$5 is paid on the share. For this the Company issues paid up non-assessable certificates of stock. The money thus raised is to be applied to the improvement of the property.

Bedford City is not an old field, but a thrifty, growing community, in the most healthful and beautiful mountain region in Virginia.

Mean yearly temperature 53.7; Winter, 44; Summer, 78.

A few miles from the peaks of Otter, it would be difficult to exaggerate the exquisite beauty of the scenery and the tonic quality of the atmosphere. Within a days ride of Boston, New York, Philadelphia, and a few hours from Baltimore, it presents unusual advantages for health seekers.

The present population is nearly 4,000. There are 30 manufacturing enterprises, large and small, in operation, and 10 new secured with capital provided, which go into work as soon as buildings can be put up and the plants erected.

On the Company's lands are the elegant Randolph-Macon Academy, the largest school for boys in the South, and the Jeter Memorial Institute for young ladies, which will be commenced within six months. The Norfolk & Western R. R. Co. will build a fine passenger depot near a first-class hotel, to cost \$75,000. Poindexter, the architect of the Academy, is now preparing plans.

The Bedford City Company offers the most beautiful residence sites in the western part of the town, in which direction it is rapidly building.

This is the safest and best investment offered anywhere in Virginia. It is a golden opportunity to get property in a splendid section, as rich in minerals as it is healthful and magnificent in the grandeur of its mountains.

A new railroad from Glasgow to Atlanta will be built. Its construction will begin this year. For further particulars address

J. M. BERRY, President of Bedford City Land & Improvement Co., Bedford City, Va.

DENISON, TEXAS.

The "QUEEN" City of the Southwest,

— AND —

✱ GATEWAY ✱

— TO THE —

GREAT STATE OF TEXAS.

The City of Denison presents the Finest Opportunity of any City in the Southwest for the Investment of Capital in Large or Small Sums.

DENISON is situated in Northeastern Texas near inexhaustible beds of coal and iron, surrounded by the finest fruit lands in the world, and adjoining the INDIAN TERRITORY, which, in the nature of things, must in a few years be opened to settlement.

The growth of Denison has been a natural one, the city having reached its present size—16,800 population—in sixteen years.

The city is regularly and beautifully laid out. Railroads run from it in four different directions. The Missouri, Kansas & Texas alone does an enormous business, having 54 miles of switch track in Denison, employing 500 skilled workmen and disbursing \$150,000 a month in wages.

The first public school in the State was established here, and the city's elegant two and three story brick school buildings, surrounded by attractive grounds, are well arranged for the use of the white and colored children. Its schools are in session ten months in each year.

We have sixteen church societies, seven of which are colored.

The city is well supplied with pure water from its numerous private wells—dug in the ground—and its first-class system of water works, giving the citizens ample protection against serious loss by fire, and enabling the insurance companies to rate the city first class as to fire hazard. Rate of taxation low.

The city has four miles of street railway, and a six-mile motor railway; has two electric light companies and a telephone plant. It has an influential New England colony, and counts among its citizens people from every State in the Union.

A large hotel, to cost \$125,000, is to be erected here this year, and a large steel plant with \$2,000,000 of capital is contemplated.

30,000 bales of cotton were shipped from Denison in 1889. 200,000 baskets of strawber-

ries and several carloads of peaches and other fruits have been shipped to market this season.

The Denison Canning Co., capitalized at \$100,000, has one of the largest canning factories in the country.

A cotton mill company with a capital of \$500,000 is building a 25,000-spindle cotton mill.

The climate of Denison is magnificent, situated nearly 800 feet above sea level. In summer it is warm, but far cooler than many cities farther North, and from 6 P. M. until after sunrise it is always cool. The city is very healthy.

The capacity of the ice factory has been increased from a daily output of 15 tons to 30.

The Denison Land & Investment Co. is prepared to give every reasonable encouragement to manufacturers, and solicit correspondence from such manufacturers as contemplate coming into the Southwest to locate.

Address all communications to

THE DENISON LAND & INVESTMENT COMPANY, DENISON, TEXAS.

Paid-Up Capital, - - - - - \$1,200,000.

OFFICERS:

W. P. RICE, President.

MILTON H. FRENCH, Vice-President.

B. J. DERBY, General Manager.

ARTHUR L. BERRY, Secretary and Treasurer.

DIRECTORS:

W. P. RICE,
J. M. FORD,
SAM STAR,

Kansas City, Mo.
Kansas City, Mo.
Denison, Tex.

B. J. DERBY, Burlington, Vermont.
ARTHUR L. BERRY, Orford, N. H.
M. V. B. CHASE, Augusta, Maine.

MILTON H. FRENCH, Thomaston, Maine.
B. C. MURRAY, Denison, Texas.
JOS. B. LINCOLN, Boston, Mass.

TREDEGAR, ALA.

RICHEST AND MOST EXTENSIVE DEPOSITS OF

— MANGANESE —

Yet Discovered in the United States.

Propositions will be Considered Looking to
the Establishment of a Large Ferro-
Manganese Plant.

FOR PARTICULARS ADDRESS

GOLDSMITH BERNARD WEST,

General Manager,

TREDEGAR (Present Postoffice Jacksonville, Calhoun Co.), Alabama.

TO MANUFACTURERS.

BASIC CITY, VA.

Whose Lots and Lands completely encompass the crossing of the Two Great Coal-Carrying Lines of Virginia, viz: the Chesapeake & Ohio Railroad and the Shenandoah Valley Railroad, is offering EXTRAORDINARY INDUCEMENTS for the removal and Establishment of

MANUFACTURING PLANTS.

LOCATION,

In the brown iron-ore district, at the crossing of the two great coal-carrying lines of Virginia, viz: the Chesapeake & Ohio and the Shenandoah Valley Railways.

IRON ORE,

Brown Hematite Ore inexhaustible in quantity and excellent in quality.

LIMESTONE

In close proximity and abundant.

WATER

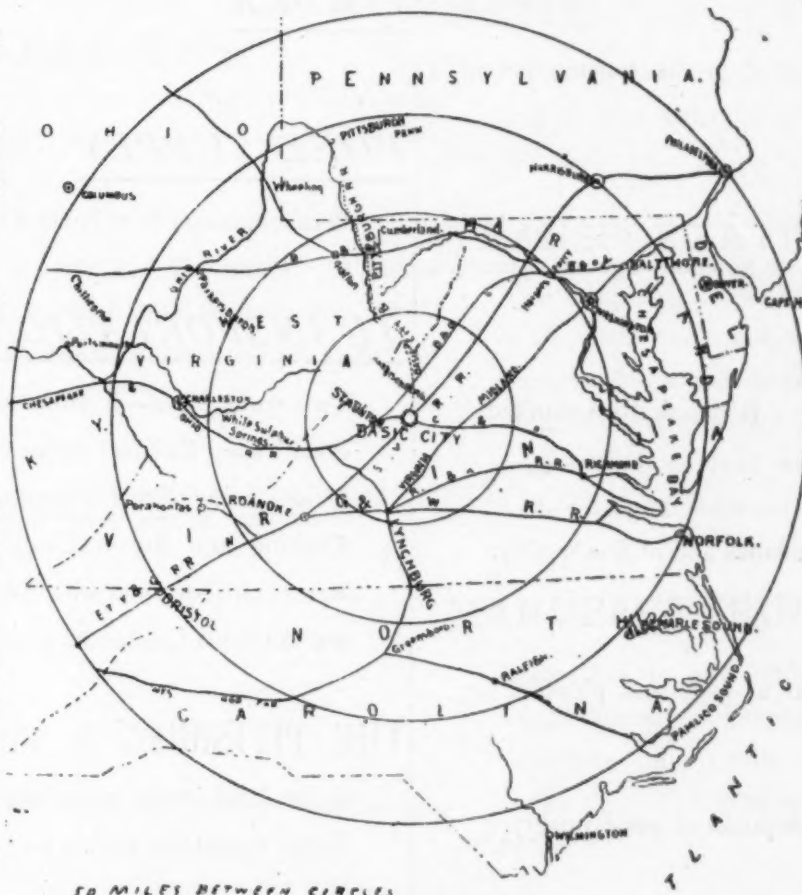
Pure free-stone. The South branch of the Shenandoah River flows through the property. A magnificent Lithia Spring and other medicinal waters.

COUNTRY

Surrounding and tributary equal to any in the Shenandoah Valley in beauty, fertility and productiveness.

TIMBER

Of almost every variety and plentiful.



HEALTHFULNESS,

Unsurpassed. Elevation 1,300 feet, and natural drainage splendid.

TRANSPORTATION,

At present by two independent railways, to the ocean, the West, and Northwest and the South, and a third, the Basic City, West Virginia & Pittsburg Railroad soon to be built, connecting with the Baltimore & Ohio Railroad.

INDUSTRIES.

Already secured a 100-ton Iron Furnace, Car Works, Paper Mill, Hardware Factory, two Blind, Sash and Building Material Factories, two Brick and Tile Factories, and others are being negotiated for. A large and handsome Hotel in course of construction, 250 feet long, with 85 rooms. The industries will employ at least 900 workmen.

Many new buildings are going up. Work is being pushed on plants for the industries just enumerated, and they will be in operation in a few months.

At the recent sale of lots the aggregate amount of sales was \$150,000. The company will continue to dispose of lots at private sale, and will probably have another auction sale next fall.

The Coming Iron and Steel Center.

FOR PARTICULARS AS TO THE SPECIAL ADVANTAGES OF BASIC CITY ADDRESS

SAMUEL FORRER, PRESIDENT AND GENERAL MANAGER Basic City Mining, Mfg. & Land Co.

BASIC CITY, VIRGINIA.

Information as to the financial standing and resources of this Company may be had by addressing the AUGUSTA NATIONAL BANK or the NATIONAL VALLEY BANK, of Staunton, Va.

GLASGOW, —————→ ←————— VIRGINIA.

The Grandest Enterprise of the New South.

THE LOCATION

is naturally fine and adapted to the construction of a large city.

THE CLIMATE

guarantees immunity against epidemics.

WATER-POWER

is practically unlimited.

IRON ORE

in abundance and of fine quality.

LIMESTONE

near at hand and plentiful.

CEMENT

extensive deposits of good quality.

GLASS SANDS

in large quantities and of high grade.

TIMBER

of various kinds and abundant.

FUEL SUPPLY

Pocahontas and New River Coke in convenient proximity.

TRANSPORTATION FACILITIES

Two trunk lines—Norfolk & Western, with its Shenandoah Valley Railroad connection, and the Chesapeake & Ohio—giving direct communication with fields of finest Coaking and Steam Coals in the country, with deep water transportation with Norfolk & Newport News, with the West via Cincinnati.

THE PITTSBURG & VIRGINIA R. R.

to be built in the near future will go through the Blue Ridge mountains at this point.

FACILITIES FOR MANUFACTURING

unexcelled by those offered by any locality in the South.

ADDRESS

ROCKBRIDGE COMPANY,

Ex-Gov. FITZHUGH LEE,

Hon. WM. A. ANDERSON,

M. M. MARTIN,

President

Vice-President.

General Manager.

WAYNESBORO, VA.

THE WAYNESBORO COMPANY.

LOCATION

In the famed Shenandoah Valley. Perfect for every class of business and residence.

CLIMATE AND HEALTH

All that could be desired. Free from rigor of North and enervation of the South. No epidemics. No malaria.

ORES

Iron in inexhaustible quantity and fine quality. Manganese—largest mine in America near at hand, and every evidence of much undeveloped, making this the center of the manganese belt of the country.

LIMESTONE

In massive beds close at hand and of best quality.

TIMBER

Of every species and very abundant. Tan bark in large quantities.

FUEL

Pocahuntas and New River coal and coke by short hauls.

WATER SUPPLY

Unsurpassed. Pure freestone. Mineral Waters adjacent.

HOTEL

To have every modern improvement and appointment and to cost \$25,000, will be let to contract within ten days.

TRANSPORTATION

Two competing trunk lines—Norfolk & Western system to all points North and South, the Chesapeake & Ohio to the great West and deep water at Norfolk and Newport News—affording direct communication with the three great coking fields of America. A third railroad to be built, giving facilities over the B. & O. System.

MANUFACTURING FACILITIES

Unexcelled by any locality in the South for profitable establishment of furnaces, steel plants, rolling mills, foundries, cotton mills, woolen mills, paper mills, tanneries, &c. Raw material for such industries abundant.

Special Inducements Offered to Parties Wishing to Locate Plants.

ERSKINE MILLER,

President.

T. H. ANTRIM,

Vice-President.

J. F. TEMPLETON,

Secretary and Treasurer.

MIDDLESBOROUGH,

KENTUCKY.

There Are Now Under Contract:

A Basic Steel and Iron Plant, daily capacity 300 tons, to cost \$1,000,000 and to employ about 1,000 hands.
 An Iron Rod Mill; A Sheet Mill; A Nail Mill.
 Two Coke Iron Furnaces, 150 tons daily capacity each, and one Charcoal Furnace.
 A \$500,000 Tannery—the largest in the world
 Fourteen Coal Mining Enterprises, to employ about \$2,000,000 capital.
 A Dozen Wood-Working Enterprises.
 A Twelve-Mile Belt Railroad.
 Tile Works, Fire and Building Brick Works, and a dozen or more other enterprises.

\$18,500,000

Already Invested in the Development of Middlesborough.

Since the above announcement was made, Mr. A. A. Arthur, the manager of the company, has returned from London, where he secured an additional **\$8,000,000** to be invested in Middlesborough enterprises.

The capital of the Water Works Company has been increased from \$200,000 to \$750,000.

The capital of the Electric Street Railway Company has been enlarged to \$250,000 and the proposed lines extended so as to cover all the principal streets.

The length of the Belt Railroad has been increased to 20 miles, and the whole line will be in operation in a few weeks.

The money has also been secured for an extension of the Knoxville, Cumberland Gap & Louisville Railroad through the tunnel into Middlesborough. There is now under negotiation a lease of railway systems, of which the Knoxville, Cumberland Gap & Louisville road will form a link, giving Middlesborough trunk line connection with Chicago, Cincinnati, Louisville, Atlanta, Charleston, Savannah and Pensacola. Arrangements are also being made for direct connection between Cumberland Gap and some point on the Atlantic coast, and following this will be the establishment of a line of steamers between that point and Liverpool.

\$400,000 has been secured for the Middlesborough Coal and Iron Bank, which is now a regular department of the American Association's business.

The entire capital of the Cumberland Gap Park Company, \$1,800,000, has been secured in London. Contracts

have been let for the magnificent hotel, casino, sanitarium and other buildings

The Middlesborough Hotel Company's capital has been increased. The company is now making an addition to its present building at a cost of \$25,000. Contract has been let for new hotel with ball room, casino and all the attractions and appointments of a first-class house, to cost \$75,000.

Contract has just been made for a new office building for the American Association, to be of stone and to cost \$35,000. A new office building will also be put up for the Middlesborough Town Company, the material to be stone and brick.

The Ousiotto Building Company, with a capital of \$250,000; the Manchester Building Company \$200,000; the St. Helen's Building Company \$200,000, and the New South Building and Loan Company with \$100,000, have been organized.

The eminent engineer, Mr. George E. Waring, Jr., of Newport, R. I., has been given the superintendency of contracts for a system of sewerage for Middlesborough and for the continuation of the work of straightening the stream that flows through Middlesborough. These improvements will cost \$150,000.

Mr. Arthur completed plans for a residence town at Cumberland Gap in connection with the American Association's developments. The amount secured for this purpose was \$750,000. The laying out of these lands has been given to Mr. George E. Waring, Jr.

The Watts London Iron and Steel Syndicate will increase its capital to £1,500,000 (\$7,500,000) and build other industries in addition to those already announced. Of the two furnaces now building the first will blow in early next October, and the second in November. Two other furnaces will be let to contract January 1.

Parties from Manchester, London and Liverpool will attend the May auction sales at Middlesborough, and will come with \$500,000 to invest in Middlesborough lots. Other parties are coming to form subsidiary companies to operate at Middlesborough in addition to those enumerated above.

The Northern American Association has been formed with a capital of \$3,750,000 to develop 200,000 acres of Kentucky coal lands; also the Anglo American Association, with capital of \$2,000,000, to develop 80,000 acres of Kentucky coal lands, and the Western American Association, with capital of \$3,000,000, to develop 150,000 acres of coal and iron lands in Tennessee.

Counting the new enterprises arranged for on this trip and the additions to the capital of such as had been already announced, Mr. Arthur has secured nearly \$8,000,000 to be invested at Cumberland Gap. This is **\$8,000,000 of new money to be added to the millions already invested.**

Thus the Amount of Capital now Invested in the Development of Middlesborough reaches

\$26,500,000.

Besides this, the three coal and iron companies mentioned above, whose aggregate capital is **\$8,750,000**, are closely allied to the American Association and the Middlesborough Town Company, and their developments will be made to contribute to the growth of Middlesborough.

The history of the world does not show an instance of

such amazing development in so short a time, and on so sure and solid and permanent a foundation.

A year ago the population of the present site of Middlesborough did not exceed 50; to-day the town has a population exceeding 5,000. It is a conservative estimate to say that in three years 50,000 people will be living here.

MIDDLESBOROUGH TOWN CO., Middlesborough, Ky.

CARDIFF.

The Cardiff Coal & Iron Company,

CARDIFF, TENNESSEE.

Capital, \$5,000,000.

Fifty Thousand Shares—Par \$100.

(CHARTERED BY THE STATE OF TENNESSEE.)

PRESIDENT.

B. B. SMALLEY, BURLINGTON, VT., President of the Ogdensburg & Lake Champlain Railroad Company.

VICE-PRESIDENTS.

W. P. RICE, FORT PAYNE, ALA.

HENRY C. YOUNG, CARDIFF, TENN., of Cordley & Co., Bankers, Boston, Mass.

GENERAL MANAGER, - - - M. M. DUNCAN.

DIRECTORS.

THE PRESIDENT & VICE-PRESIDENTS, Ex Officio.

JOSHUA L. CHAMBERLAIN, NEW YORK CITY, N. Y., Ex-Governor of Maine and President of Bowdoin College; Ex-President of the Association of the Army of the Potomac.

WILLIAM WARNER, KANSAS CITY, MO., of Warner, Dean & Hagerman, Counsellors-at-Law; Ex-Member of Congress from Missouri, and Commander-in-Chief of the Grand Army of the Republic.

SAMUEL E. PINGREE, HARTFORD, VT., Ex-Governor of Vermont; Chairman of the Board of Railroad Commissioners of Vermont.

CHARLES L. JAMES, BOSTON, MASS., of James & Abbot, Lumber.

T. G. MONTAGUE, CHATTANOOGA, TENN., President of the First National Bank of Chattanooga; Director of the Roane Iron Co.

ROBERT PRITCHARD, CHATTANOOGA, TENN., of Pritchard, Sizer & Thomas, Counsellors-at-Law.

J. F. TARWATER, ROCKWOOD, TENN., of Tarwater & Brown, Iron Miners.

J. M. FORD, KANSAS CITY, MO., President of the Fort Payne, Ala., Furnace Co., and of the First National Bank of Denison, Texas.

CARLOS HEARD, BIDDEFORD, ME., Merchant.

JOHN M. WHIPPLE, CLAREMONT, N. H.

FISCAL AGENTS IN THE NORTH.

CORDLEY & CO., BANKERS, 121 Devonshire Street, Boston, Mass.

BANKERS IN THE SOUTH.

FIRST NATIONAL BANK OF CHATTANOOGA, TENN.

TRANSFER AGENTS.

AMERICAN LOAN & TRUST COMPANY, BOSTON, MASS.

THE CARDIFF COAL & IRON COMPANY, at a public sale held April 22d to 24th sold over one million dollars' worth of business and residence property to investors, who will build on and improve the same at once. The prices were conservative and maintained within the limits of actual value. The proceeds of this sale, together with the sum to be contributed by the Cardiff Coal & Iron Company from the sale of its treasury stock, gives the management two million dollars, all of which will be expended in building up the town. The place does not exist that can approximate the inducements that this city now offers to every class of industry and manufacture.

SITUATED IN A HEALTHY CLIMATE,

SUPPLIED WITH PURE WATER,

EXCELLENT TRANSPORTATION FACILITIES,

In the Heart of the Great Iron and Coal Belt of Tennessee,

Surrounded by a rich agricultural community, with every class of business sustained by the demands of the country, Cardiff will furnish to the Manufacturer, the Merchant, the Banker, the Professional Man, the Farmer, the Miner, the Laborer all that reason demands.

Financial Encouragement will be Given Every Class of Business.

The Cardiff town site contains over 3,000 acres. The building of Cardiff is in charge of men of approved judgment and experience. The town will be developed by the erection of Iron Furnaces, Coke Ovens, Hotel, Water Works, Motor Line, Electric Lights, Manufacturing Plants, Public Buildings.

The Valley Land & Improvement Company,

LURAY, PAGE COUNTY, VIRGINIA.

2,500 Acres Town Lands. 8,000 Acres Mineral Lands.

LURAY INN AND CAVERNS.

Capital Stock, = = = \$2,000,000.

DIRECTORS.

D. F. KAGEY, Luray, Va., President.	G. C. MARSHALL, Uniontown, Pa., Vice-President and Gen. Manager.
T. E. McCORKLE, Lexington, Va.	G. K. MULLIN, Philadelphia, Pa.
DR. W. L. HUDSON, Luray, Va.	J. W. MILLER, Mount Jackson, Va.
DR. A. M. HENKEL, Staunton, Va.	

EXECUTIVE COMMITTEE.

D. F. KAGEY, Secretary, T. E. McCORKLE. Attorney, T. E. McCORKLE.	G. C. MARSHALL, Treasurer, H. M. KERR, Kagey & Co.'s Bank. Associate Counsel, H. J. SMOOT.	T. E. McCORKLE, Manager of Inn and Caverns, G. K. MULLIN.	G. K. MULLIN, Bankers, D. F. KAGEY & CO., Luray, Va.
---	--	---	--

THE VALLEY LAND & IMPROVEMENT COMPANY.

The Charter.

THE VALLEY LAND & IMPROVEMENT COMPANY has been organized under the broadest and most liberal charter ever granted by the State of Virginia.

Under this charter we have all the privileges granted to organizations of this character, and many other liberal concessions and franchises not usually held by organizations operating in the South.

The Luray Inn and the Luray Caverns.

THE LURAY INN.—The company owns and controls the famous Luray Inn, one of the most luxuriously-furnished and appointed hotels in the country, under the management and supervision of Mr. Geo. K. Mullin, who is so well and favorably known to the tourist from Europe and of America.—[Full description and particulars in pamphlet, that will be sent on application.]

THE CAVERNS OF LURAY.—We own and control in connection with the Inn the famous Luray Caverns, as full a description of which as can be portrayed and given on paper, is to be found also in the same pamphlet.—“The Caverns of Luray.”

Lands, Building and Manufacturing Sites.

The company has acquired about 2,500 acres of the choicest land for building sites and manufacturing purposes in and around the hotel, caverns and the town of Luray. In fact, we own all of the available lands suitable for these purposes.

These lands we purpose laying out in beautiful villa and business lots. It has perfect natural drainage and a beautiful, undulating plateau, giving every lot a commanding view of the Hawksbill Valley for miles. The valley is protected on either

side by the Massanutten Mountain on the west and the Blue Ridge Mountain on the East.

Rich Mineral Lands.

In addition the company owns and controls about 8,000 acres of the best mineral properties in Virginia, consisting of iron, manganese and other valuable minerals.

THOROUGH EXAMINATION OF THESE PROPERTIES MADE.—Months have been spent in thoroughly examining and prospecting these properties by men who have had years of practical experience, and selected them with the greatest care, not for acreage, but for their true mineral worth.

Page County, Satisfactory Geological Examination, &c.

Page county, and this section particularly, has been carefully examined by the ablest geologists in the country, who have reported on many of these lands for the Shenandoah Valley Railroad Company, and it can be truthfully said that she stands at the head of the list as having a greater variety of minerals and richer than any county—so far as known—in the State.

Some of these properties have the finest showing of manganese—not excepting the celebrated Crimora Mines—in the whole State of Virginia.

EXAMINATION INVITED.—In making these statements we invite the expert, the practical man, the parties using manganese and any one feeling an interest in mineral properties to come and see for themselves.

The company will take pleasure in showing these lands and its beautiful property, and we feel fully satisfied that the properties will speak more favorably for themselves than we represent them through our prospectus.

Timber Lands, Clays, Ochres, &c.

TIMBER.—In addition to minerals we have the finest kind and a great variety of virgin timber, in fact, timber suitable for every manufacturing purpose.

CLAYS, SLATES, MARBLES, OCHRES, &c.—We have, also, fire-clays, slates—suitable for roofing purposes—beautiful marbles, ochres, umber and mineral paints.

Location, Railroad, New Railroads, &c.

Luray, Va., is immediately on the Shenandoah Valley Railroad, of the Norfolk & Western System, and geographically the best location in Virginia or the South from the fact that it is only four hours to tidewater and the eastern markets for its products, and will soon have an outlet to Washington, D. C., and Baltimore in a direct line, which will reduce the time to two and two and one-half hours.

There will be a line through New Market Gap to New Market, Va.,—fourteen miles—connecting with the Valley Road of the B. & O. system, thus insuring cheap freights and the advantages of the Virginia, West Virginia and Connellsville coke.

The Norfolk & Western system is pursuing the most liberal policy in furthering industrial enterprises along its line.

The Town of Luray.

The town of Luray now contains a population of about 2,500, and is the county seat of Page county; has five churches, viz: two Baptist, one Episcopal, one Lutheran, and one Methodist; the Luray Female Institute and Von Bora Female College, one Graded School, male and female, one bank, two drug stores, seven dry goods stores, three hardware stores, one grocery, two millinery and one confectionery and bakery, three hotels, besides the Inn, three newspapers, two flouring mills, one cigar factory, and one livery stable—probably the best in Virginia.

The Largest Tannery in the World.

In addition to what we have already named, Luray has one of the finest, most completely equipped, and the largest tannery in the world, with a capacity of 1,000 sides per day; and an annual pay roll of over \$350,000.

Messrs. Deford, of Baltimore, the proprietors, intend, so we have been told, adding very largely to the capacity of their plant.

Inexhaustible Water Supply, Agricultural Resources, Climate, Etc.

Pure mountain streams and never-failing springs give inexhaustible supply of water for manufacturing purposes and sufficient for the needs of a city of 100,000 inhabitants.

The agricultural resources of Luray could not be finer. From the tower of the Luray Inn, as far as the eye can reach up and down the Hawksbill Valley, one can see nothing but beautiful blue grass farms, in the highest state of cultivation. Finer grass or soil could not be found in the blue grass regions of Kentucky: and all we ask is, that you come and see for yourselves.

The climate of Luray, and of the Valley, through spring, summer, and, in fact, throughout the entire year, is pronounced the most delightful and restful, by tourists and guests, who have spent months at the Luray Inn. The nights during summer are simply charming—malaria not known, and rarely a night in summer when a blanket would not be comfortable. Indeed, it is an ideal spot in which to build a home.

Manufactories, Donations, Invitation, Lots, Etc.

The company reserves ample ground along the railroad, and convenient thereto, fine natural sites for furnaces and manufactories of all kinds; and we call especial attention of the readers of this prospectus to this grand location for manufactories. The company purposes making liberal donations of these, in the way of sites, and do everything in its power to induce artisans of all kinds to locate in Luray; where they can buy cheap lots to build themselves comfortable homes, and have all the advantages of good schools and churches.

We extend a cordial invitation to all, feeling satisfied that when once here they will be fully convinced that our statements only give but a faint idea of the splendid property the company owns.

The company only intends to lay out at present but 10,000 lots, and they will be placed on the market as quickly as it is practicable to complete the surveys of the proposed extension of Luray. These lots will be not less than fifty by one hundred and fifty—quite a number sixty by two hundred—feet; and, as the demand justifies, more will be laid out and placed on the market.

Capital Stock, Shares, Reservation, Etc.

CAPITAL STOCK, &c.—The capital stock is \$2,000,000; shares \$100 each—par value \$100—full paid and non-assessible.

One million of the stock will remain in the treasury until such time as the stockholders may deem advisable to dispose of any part of same for the betterment of the company; and it is quite possible that it may never be placed on the market at all.

The one million stock or such part as is not already spoken for, is now offered for sale. The books are opened at the bank of D. F. Kagey & Co., Luray, Va., where H. M. Kerr, Treasurer, will receive and receipt for all moneys; and the company reserves the right to close the books any time before the full amount of the one million is sold.

Payment, Stock Exchangeable for Lots, Property Development, Etc.

Twenty per cent. must be paid on subscription; twenty per cent. in thirty days, and the balance in equal payments in six and twelve months, with interest on last two payments. Subscribers have the right to anticipate any or all deferred payments, when certificates will be issued.

Subscribers to stock will, when half of the subscription is paid in, have the right to use their stock in payment on lot purchases, when immediate possession of lot will be given, and deferred payments, if any, treated exactly as though it were stock subscription; for instance, when the last two payments will have been made, a good warranty deed will be given in lieu of certificate.

The company purpose laying out, beautifying and developing their property for the stockholders.

Dividends, Enterprises, Etc

DIVIDENDS, &c.—Encouraging good paying enterprises of all kinds to come and locate at Luray and enjoy its superior advantages over any place in the South, we feel almost safe in saying that with the magnificent property in hand, the Inn and famous Caverns, managed in a business way, that the company will be enabled, when thoroughly under way, to pay four or five per cent. dividend on the stock sold, independent of its lots and mineral lands.

The company has been written to by quite a number of enterprises with good pay rolls, employing skilled labor—the only kind we really care for—asking for locations. Several parties are on the ground now while we are writing this prospectus, carefully going over the ground with the view of selecting a manufacturing site.

Investors, Electric Plant, Water System, Etc.

TO INVESTORS.—We present to investors a business proposition that will stand the most rigid investigation, and we say, without any hesitation, it is one of the grandest opportunities ever offered as a permanent investment. It will be conducted similarly to the Elyton Land Company of Birmingham, Ala. The books were hardly opened when over \$100,000 was subscribed, and the president has received several letters from Eastern capitalists asking for stock. We invite the fullest investigation.

Investors are referred to Mr. J. W. Wheeler, cashier Drovers & Mechanics' National Bank, Baltimore, Md., for full information, &c.

H. C. Turnbull, Jr., Real Estate Agent, 5 E. Lexington street, will receive subscriptions to stock, in Baltimore.

ELECTRIC PLANT, &c.—The company already owns an electric plant, which will be very considerably enlarged. We also intend putting in a thorough and complete water system, make many needed improvements at and around the Caverns and put incandescent lights throughout the Caverns—in fact, many improvements and conveniences that will give great value to this property.

THE VALLEY LAND & IMPROVEMENT CO

LURAY, PAGE COUNTY, VA.

CITY OF GRAND RIVERS,

KENTUCKY.

A New Industrial City of the South.

SITUATED upon a narrow strip of land between the Tennessee and Cumberland rivers near their entrance into the Ohio, practically in the Mississippi Valley, forming a system of river transportation unequalled by any location in the South, being by river or rail several hundred miles nearer the great Western markets. The Newport News & Mississippi Valley Railroad runs directly through the Company's coal, iron and city property.

Chief among its resources are its immense banks of brown hematite iron ore, existing in gigantic pockets and showing enormous outcroppings from leads extending over thousands of acres of the Company's lands, assays from which show metallic iron 50 to 66 per cent, with practically no phosphorus or sulphur.

Pig iron can be laid down in Pittsburgh from Grand Rivers, by reason of its river system of transportation, \$2.50 per ton cheaper than from Birmingham, Ala.

The quantity of coal upon the Company's lands is practically inexhaustible, its measures, eleven in number, ranging from four to seven feet in thickness, and available upon nearly all of the three thousand acres of the Company's coal lands. This coal has been found to possess superior qualities as a coking, steaming or domestic coal.

As a manufacturing center Grand Rivers has no equal in the South. The saving to the manufacturer from its cheap

rates of freight and cheap coal will prove a source of profit equal to a liberal dividend upon his invested capital.

The Company own 21,000 acres coal, iron ore and timber lands convenient to its furnaces, together with 3,000 acres city lands situated upon the banks of both rivers.

Surveys are nearly completed, and the streets are being graded. Industries of various kinds are now locating their plants, and in a short time there will be seen a rapidly growing and substantial city.

A building association has been formed for the erection of permanent brick buildings for business purposes and dwellings, operations upon which have already commenced. A bank is being organized. Two large charcoal furnaces are under contract, and numerous other industries in contemplation.

Thus, with ample capital, Northern enterprise and good management, Grand Rivers will take a prominent position in the great manufacturing cities of the South.

The Company offer the most liberal encouragement to manufacturers wishing to establish plants there, and will give to them every facility in their power to make their enterprises successful.

The city lands are now being platted, streets graded, and everything put into an attractive condition for visitors and investors.

FOR INFORMATION, PRINTED MATTER &c., ADDRESS

GRAND RIVERS COMPANY, No. 113 Devonshire Street, Boston, or GRAND RIVERS, LIVINGSTON COUNTY, KENTUCKY.

CAPITAL - - - \$3,000,000.

PRESIDENT, - - - ARETAS BLOOD, Manchester, N. H.

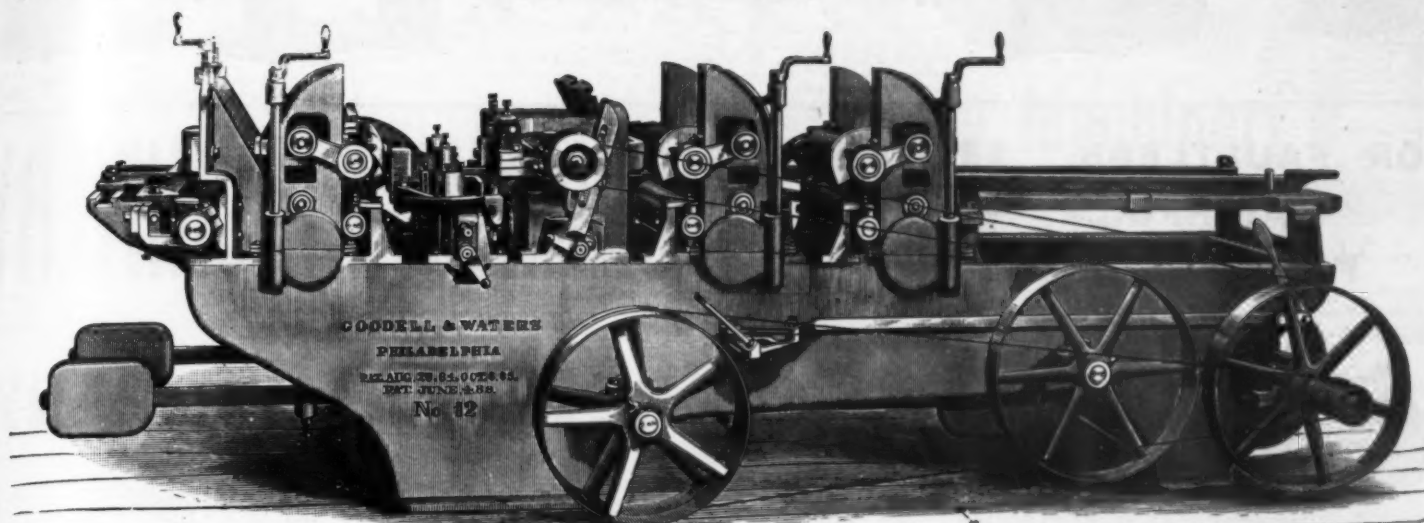
NEW ENGLAND DIRECTORS:

ARETAS BLOOD, Manchester, N. H.; BENJAMIN DORE, Lynn, Mass.; H. L. LAWRENCE, Arlington, Mass.; J. F. BROWN, Boston, Mass.; A. H. BREED, Lynn, Mass.

GOODELL & WATERS,

BUILDERS OF

Wood Working Machinery



No. 12 SIX-ROLL PLANER AND MATCHER.

To Double or Single Surface 24 inches wide up to 6 inches thick and match 19 inches wide. Weight 7,000 pounds.

Our line of Planing Mill Machinery is very complete. During the past year we have introduced many new and improved tools, and you will do well to consult our catalogue Estimates cheerfully given for complete mill outfits.

GOODELL & WATERS,

Western Warerooms, Chicago and San Francisco.

MANUFACTURERS,

3002 Chestnut Street, Philadelphia, Pa.

ESTABLISHED 1853.

THE WHEELER, MADDEN & CLEMSON MFG. CO.

MANUFACTURERS OF

Hand, Cross-Cut and Wood Saws,

MIDDLETOWN, NEW YORK.

No. 24 HAND, PANEL AND RIP SAWS.



No. 24 Hand, 26-inch, list \$30.00 per dozen.

Extra thin back, patent handle, hollow back blade, perfect temper, elegant finish, superior filing.

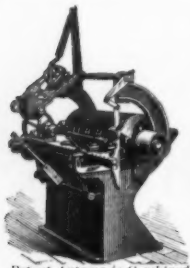
PRICE, QUALITY AND GENERAL SUPERIORITY taken into consideration, this is by far the best Saw for the mechanic's use.

THE NARROW CHAMPION, complete with our new patented No. 8 handle; also furnished with either the Diamond or Great American Tooth.



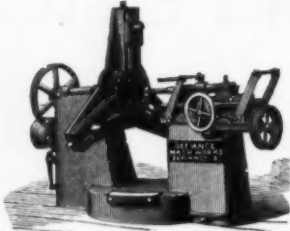
THE CHAMPION EXTRA THIN BACK CROSS-CUT SAW.

ALL GENUINE CHAMPION SAWS are etched with the word "CHAMPION," which is our exclusive trade mark. All infringements of the same rigorously prosecuted. We manufacture Cross-Cut Saws in all the leading shapes and sizes and styles of teeth, and have the best line of patented handles made. The Nos. 24 and 27 Hand Saws for 1890 are the finest brands ever produced. Manufacturing our steel exclusively for our own goods, and employing many new machines and processes owned and used solely by us, we are enabled to put upon the market a line of Saws that stand to-day without a rival. All Saws bearing our name are fully warranted in every particular. We challenge comparison. FOR SALE BY ALL LEADING JOBBERS AND DEALERS.



Patent Automatic Combined Spoke, Turning and Squaring Machine. Carves common, arched patent or sharp-pedged spoke turning, capacity 2,000 per day.

Established 1850.



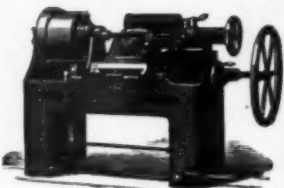
Wheel-Boxing Machine.

Defiance Machine Works, DEFIANCE, OHIO.

MANUFACTURERS OF
HUB, SPOKE, WHEEL, BENDING
Wagon and Carriage Machinery.

Patent Plow-Handle Benders, Shapers, Cut-off Saw and Revolving Polishers, Hot-Form, Double and Single Bent Pole and Express Shaft Benders, Neck-Yoke, Singletree, Brush Handle Lathes and Finishing Machines. Estimates and Circulars given upon application.

COMPLETE OUTFITS
FURNISHED.



Patent Hub-Turning Machine.

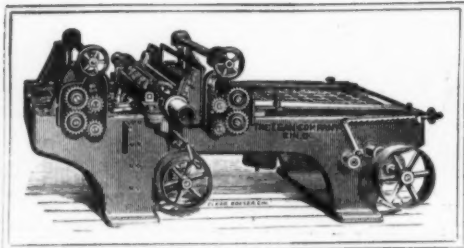


Patent Automatic Double Chisel Hub-Mortising Machine. Built in three sizes.

**FOR FAULTLESS.
FAITHFUL,
FAST FEEDING**

WOOD WORKING MACHINERY

OF EVERY DESCRIPTION.



Send for New Catalogue and Information.

Address

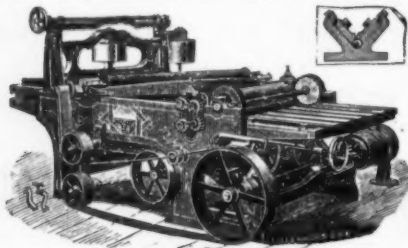
THE EGAN COMPANY,

Complete Outfits

For Planing Mills, Sash,
Door, Blind, Chair, Furni-
ture, Carriage and Wagon
Factories, General Wood
Workers, &c.

228 to 248 W. Front St., Cincinnati, O.

Latest Expression of American Ingenuity.



Diagonal Planer and Polisher.



ROWLEY & HERMAN

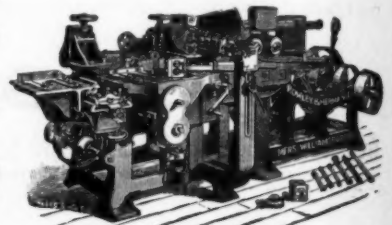
WILLIAMSPORT, PA., U. S. A.

Manufacturers of the Finest and Most Complete Line of

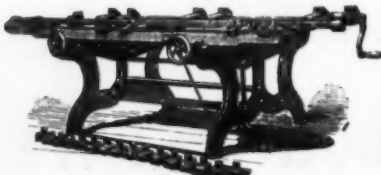
Wood-Cutting Machinery

IN AMERICA.

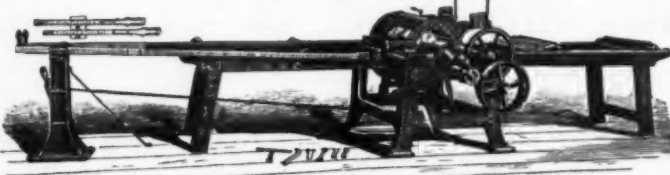
Write for Illustrated Catalogue and Special Prices.



Improved 8-inch and 10-inch Moulder



Patent Door and Blind Clamp, with or without Sash Attachment.



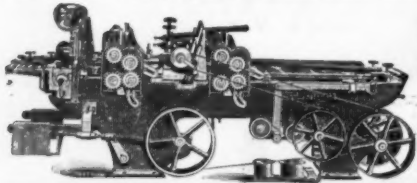
No. 2 New King Power Feed Gang Rip Saw.



Phillips Patent Sash Clamp.

CONNELL & DENGLE,

MANUFACTURERS OF PATENT IMPROVED

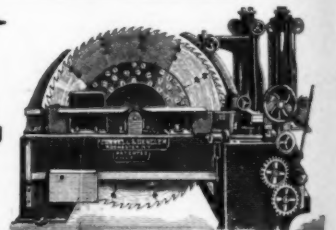


Wood Working Machinery, Planers, Matchers,

PONY PLANERS, HAND MATCHERS,

SOLID PLATE AND SEGMENT RE-SAWS, BOX BOARD PRINTING PRESSES,

— ROCHESTER, N. Y. —

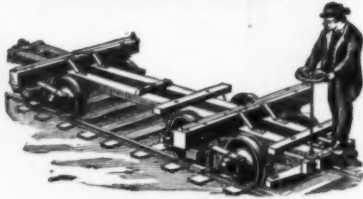


RUSSEL WHEEL & FOUNDRY COMPANY,

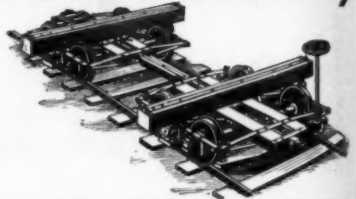
Detroit, Mich.

Logging Cars,

And Cars for Lumber, Mill, Wood and Mining Purposes.



NO. 2 LOGGING CAR.



NO. 5 EXTENSION REACH LOGGING CAR.

Established 1874.

MANUFACTURERS OF
Taper Shank Drills,
Straight Shank Drills,
Blacksmith Drills,
Bitstock Drills,
Straight Fluted Drills,
Machine Bit Drills

Cleveland Twist Drill Co.



Send for Catalogue.

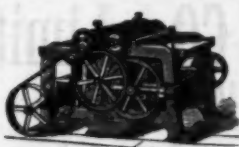
OFFICES—Cor. of Lake & Kirtland Sts., Cleveland, O.
MORTON, REED & CO., BALTIMORE.

Write for Discounts.

MANUFACTURERS OF
Self-feeding Reamers,
Expanding Reamers,
Shell Reamers,
Stay-bolt Taps,
Taper Reamers



No. 7—Pacific Planer and Matcher.



No. 4—Smoothing Planer.



Horizontal Borer.



No. 2—Self-Feed Rip Saw.



No. 3—Molding Machine.



No. 1—Foot Scroll Saw.

W. H. DOANE, Pres't.

J. A. FAY & CO.

D. L. LYON, Sec'y.

CINCINNATI, OHIO.

Manufacturers of
—PATENT—

Improved Wood-Working Machinery

OF EVERY DESCRIPTION,

For Planing Mills, Sash, Door and Blind Shops, Furniture, Carriage and Wagon Factories,
Spoke, Wheel and Agricultural Works, Car Shops, etc.



No. 2—Band Saw.

Awarded "GRAND PRIX" at the Great PARIS EXPOSITION of 1889.

Every Machine Tested and Warranted.
Send for Circulars and Estimates.



Wood Working Machinery



COMPLETE OUTFITS FOR PLANING MILLS

H. B. SMITH MACHINE CO.

Send for catalogue and visit our extensive
warerooms if possible.

925 MARKET STREET.

PHILADA, PA., U. S. A.

Established 1840.

HENRY DISSTON & SONS,

Established 1840.

Incorporated,

Keystone Saw, Tool, Steel and File Works,

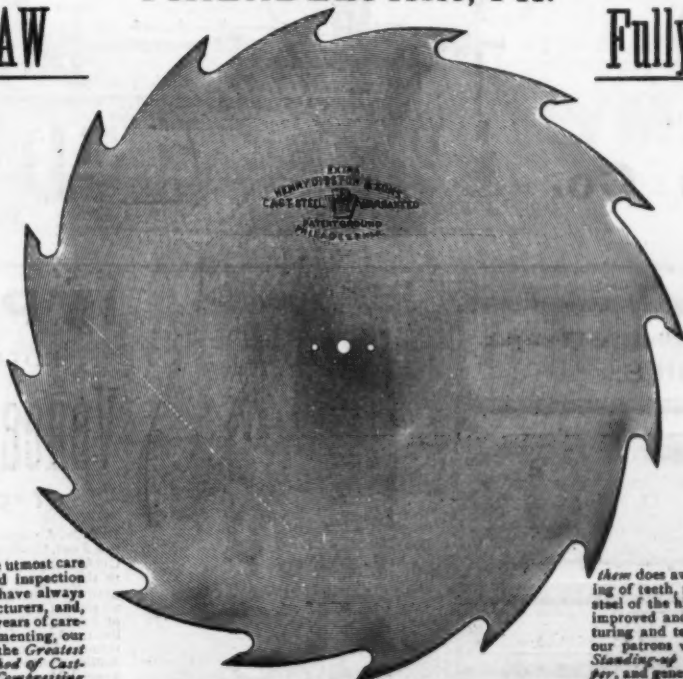
PHILADELPHIA, PA.

Every SAW

Fully Warranted.

BRANCH HOUSE:
Cor. Randolph and Market Streets,
CHICAGO, ILL.

Send for Price List and Discount Sheet and
New Illustrated Edition of Files.



Send for New edition of Lumberman's Hand
Book and Sawyer's Pocket Edition.

BRANCH HOUSE:
923 West Main Street,
LOUISVILLE, KY.

WE have always taken the utmost care
in the manufacture and inspection
of our steel and saws, have always
headed the list of saw manufacturers, and
we are happy to say, that after years of care-
ful study and expensive experimenting, our
efforts have been crowned with the Greatest
Success of the Age, as our Method of Cast-
ing Steel Ingots and Process of Compressing

them does away with the splitting and spall-
ing of teeth, makes a hard, tough and elastic
steel of the highest quality, which, with our
improved and patented process of manufac-
turing and tempering enables us to furnish
our patrons with saws that for Toughness,
Standing-up Quality, Uniformity of Tem-
per, and general superiority,

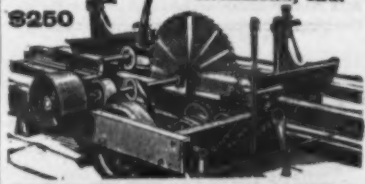
HAVE NEVER BEEN EQUALLED.

THE BEST MILL BUILT.

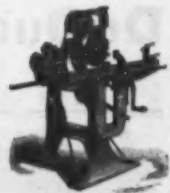
Send for circular.

\$200
\$250

Richmond Machine Works
Richmond, Ind.



BAND SAW.



TWIST MACHINE.

Send for Catalogue "A"

P. PRYBIL,

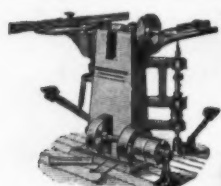
518 to 524 W. 41st Street, New York City.

MANUFACTURER OF SUPERIOR

Wood-Working Machinery

SHAFTING, PULLEYS AND HANGERS.





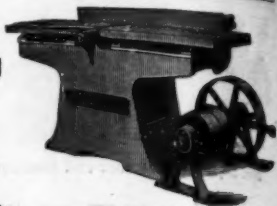
Sash Mortiser and Relisher.

WILLIAMSPORT MACHINE CO., Limited,

COR. WEST 3D AND WEST STREETS, WILLIAMSPORT, PA.

MANUFACTURERS OF

Improved Wood-Working Machinery.



Hand Planers.



Blind Slat Re-Saw.



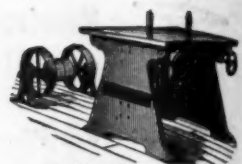
Blind Slat Tenoner.



Pin Making Machine.



Hand Saws.

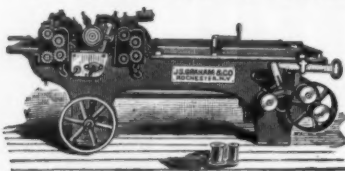


Double Spindle Shapers.

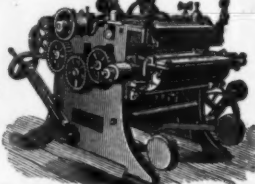
J. S. GRAHAM & CO.

261 LYELL AVENUE, ROCHESTER, N. Y.

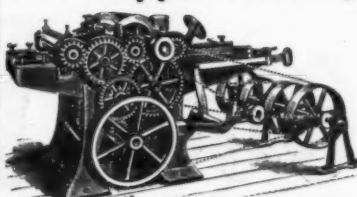
Manufacturers of Planers and Matchers, Surfers, Timber Planers, Resawing Machines, Gang Rippling Machines, Self-Feed Saw Tables, Moulders, Pony Planers, Etc.



SEND FOR PRICES.



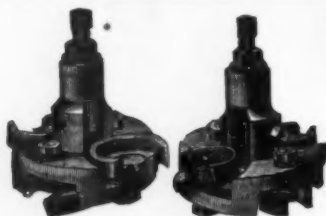
The Clipper Planer, Matcher and Moulder.



The Best and Most Convenient of its Class on the market. Cut Gearing and all our recent improvements. Cylinder is Double Belted. No Extra Attachment Required for Working Moulding. Weight 3,000 pounds. Write for Special Price.

We are Builders of HIGH-GRADE Wood-Working Machinery. SEND FOR ILLUSTRATED CIRCULARS.

INDIANA MACHINE WORKS, Fort Wayne, Ind.

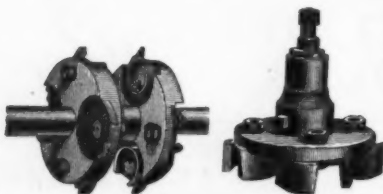


FLOORING MATCHER HEADS.

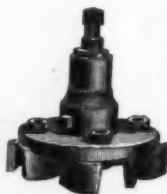
THE SHIMER MATCHER HEADS

The Cheapest! The Strongest! The Most Durable!

AND YET THE LIGHTEST AND EASIEST RUNNING MATCHER HEADS IN THE WORLD. UPWARD OF 25,000 SOLD.



BOX BOARD MATCHER HEADS.



JOINTER HEAD.

The Bits are arranged in upper and lower series, and secured to a Head having seats alternately inclined for the purpose of giving the side clearance to their cutting points. This explains why these Bits hold their shape and turn out standard work until used up; the entire circle of Bit being tool cutting edge. This diagram represents a Bit (D) in the position it occupies when making a cut; the Bit (C) which follows to complete the work, is given in outline.

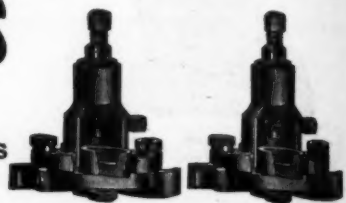
Samuel J. Shimer,



This explains the division of cut and the easy working of the tool. They finish hard, cross-grained and knotty lumber neatly, showing clean cut edges, and often save their cost in one day's run.

We also make SHIP-LAP HEADS JOINTER HEADS, DADO HEADS, SASH HEADS, DOOR HEADS, COPE HEADS, and Heads for any special work where a perfectly uniform pattern is required. Send for Descriptive Circular.

Milton, Penn.



SHIP LAP HEADS.



DOOR HEAD.



SASH HEAD.

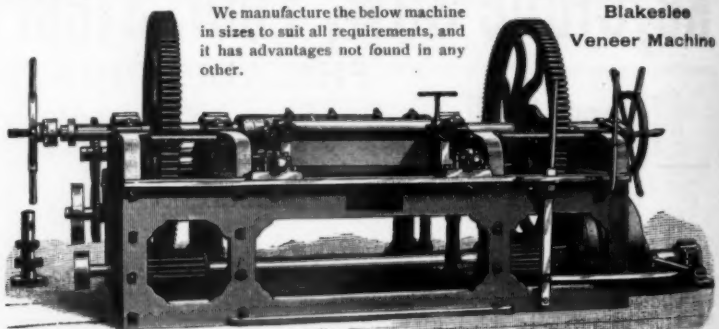
"LESLIE" ROLLER.



The above Roller is for making the "Leslie" or octagon berry box, and can be supplied for any kind of machine. Write for catalogue to the

DuQuoin Iron Works Co.

DUQUOIN, ILL.



We manufacture the below machine in sizes to suit all requirements, and it has advantages not found in any other.

Blakeslee Veneer Machine



Special Machines for Furniture, Basket and Toothpick FACTORIES.

IMPROVED

ROTARY-CUTTING

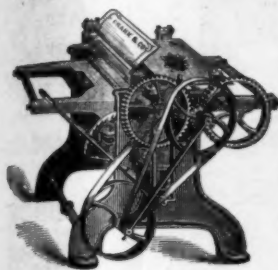
Veneer Machines

STRONG, SOLID,

Durable, Accurately Made, Double Drivers, Positive Feed, Completely Adjustable. AUTOMATIC CHANGE OF PITCH varies the pitch of knife to the varying size of log, always holding it in position to do the smoothest, soundest cutting on all sizes of log and thickness of cut—the perfection of cutting. Built in all sizes within practicable limit. Adapted to the production of all kinds of thin-cut lumber. Also builders of Clippers and Rolling Cutters for Dimension Veneer Stock and Special Machinery. Send for circulars.

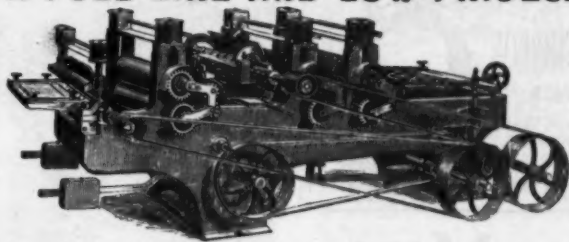
COE & WILKES,
PAINESVILLE, OHIO.

WOOD-WORKING MACHINERY.

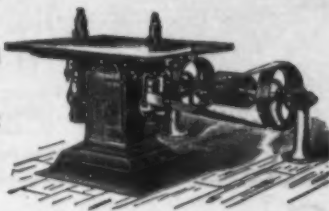


Planing,
Matching,
Moulding,
Tenoning,
Mortising,
Boring,
Shaping,
Carving,
Etc.

A FULL LINE AND LOW PRICES.



Write for
new illustrated
catalogue
(just out) and
our
latest price-list
Mention
this paper.



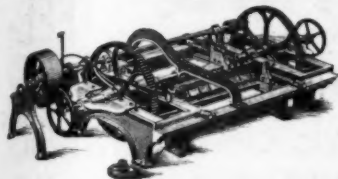
MACHINERY AND COMPLETE OUTFITS.

FRANK & CO. 176 TERRACE STREET, BUFFALO, N. Y.

I. E. MERRITT MACHINERY CO.

— LOCKPORT, NEW YORK —

Rotary Veneer Cutter.



For making veneer for Fruit Baskets,
Berry Boxes, Orange Crates, Cheese Boxes,
Butter Dishes and Tubs, Furniture and Car
Trimmings, Chair Bottoms, Barrel Staves,
Head Linings, etc.

Veneering and Handle Machinery.

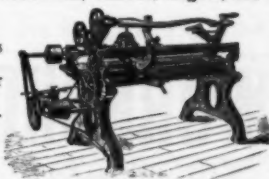
— HANDLE MACHINERY. —

GAUGE LATHE, with recent valuable improvements. OBER IRREGULAR
LATHES (protected by patents) for turning axe, hammer and pick handles and spokes.
ROD and DOWEL MACHINES, AUTOMATIC SAW-MILL for sawing handles
and spokes direct from log, with the grain. Sand Belt Machines, Chucks, Augers, &c.



IMPROVED GAUGE LATHE.

Send for Blue Prints
and paper on "Veneer
Cutting," also illustra-
ted Catalogue.

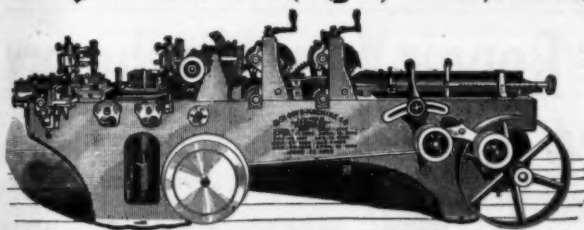


THE OBER LATHE.
Best for Irregular Forms.

GLEN COVE MACHINE COMPANY, Limited,

MANUFACTURERS OF

Improved Planing Mill Machinery.

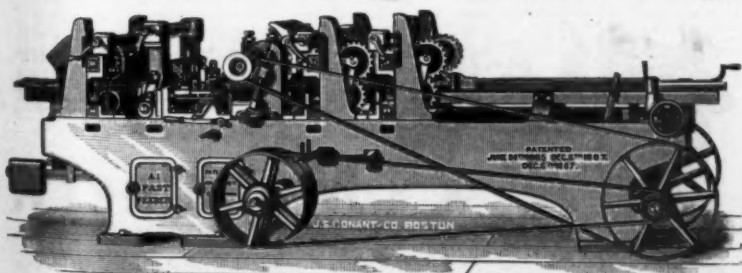


No. 84.—10-inch Patented Fast Feed Moulding Machine.

SPECIALTIES: Fast-Feed Sizing, Planing and Matching, Flooring
and Ceiling, Inside Moulding and Double Surfacing Machines; also the
celebrated GLEN COVE DOUBLE DECKER and GLEN COVE SPECIAL.

Office & Works,
34 CLAY ST.
Brooklyn N. Y.

S. A. WOODS MACHINE CO.
Wood-Working Machinery,

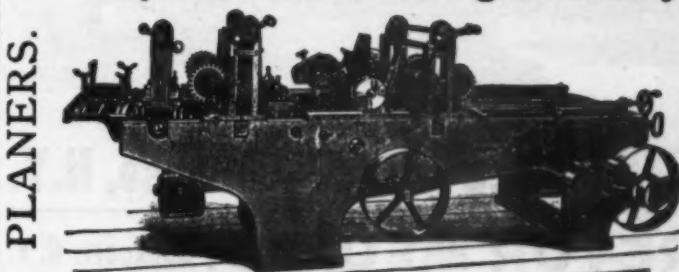


Planing and Moulding Machines a Specialty.

91 Liberty Street, NEW YORK. 172 High Street, BOSTON. 61 S. Canal Street, CHICAGO.
WORKS: SOUTH BOSTON, MASS.

C. B. ROGERS & CO.

MAKERS OF Improved Wood-Working Machinery.



PLANERS.

MOLDERS.

MORTISERS, TENONERS, BAND AND SCROLL SAWS, &c.

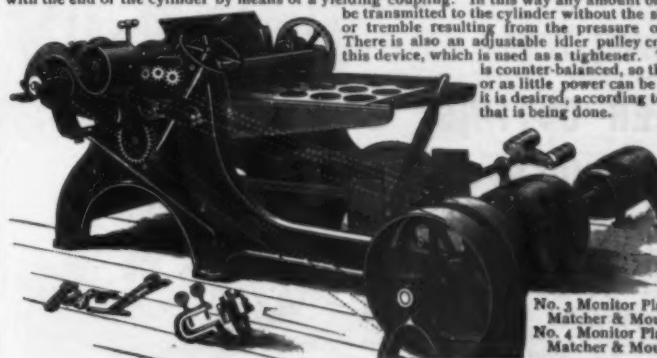
Office and Works, Norwich, Conn.

Wareroom, 109 Liberty Street, N. Y.

THOS. K. CAREY & BROS., AGENTS, BALTIMORE, MD.

WOOD-WORKING MACHINERY.

This cut is a representation of my No. 3 and No. 4 Monitor Planer, Matcher and Moulder, showing the application of my new patent Cylinder Driving Device. This device consists of an extra shaft placed in two bearings outside the cutter head bearings, and having the end of this shaft connected with the end of the cylinder by means of a yielding coupling. In this way any amount of power can be transmitted to the cylinder without the slightest jar or tremble resulting from the pressure of the belt. There is also an adjustable idler pulley connected to this device, which is used as a tightener. This pulley is counter-balanced, so that as much or as little power can be applied, as it is desired, according to the work that is being done.



PRICES:

No. 3 Monitor Planer,
Matcher & Moulder...\$500
No. 4 Monitor Planer,
Matcher & Moulder...\$400

For further particulars and special cash discounts, address

JOSIAH ROSS, 1443 to 1459 Niagara St., Buffalo, N. Y.

WM. E. HILL & CO.

— MANUFACTURERS OF —

SPECIAL PATENT SAW and SHINGLE MILL

MACHINERY

KALAMAZOO, MICH.

WRITE FOR NEW ILLUSTRATED CATALOGUE.

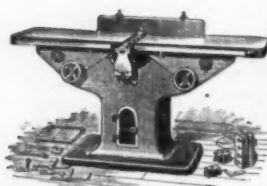
PETER GERLACH & COMPANY, CLEVELAND, OHIO.

Manufacturers of **Alligator Chisel-Bit Saws,**

The CHAMPION STAVE, HEADING and SHINGLE MACHINES. Ice Tools and Mill Supplies.

CORDESMAN, MEYER & CO.

171 & 173 W. SECOND STREET, CINCINNATI, OHIO.

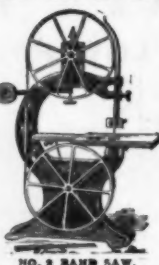


UNIVERSAL WOOD-WORKER.

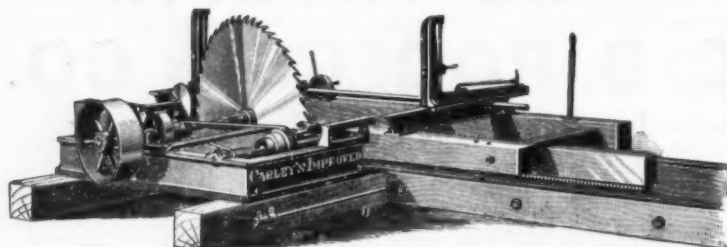
FIVE GRADES OF LATEST
Wood-Working Machinery
OF EVERY DESCRIPTION.

Planing Mills, Furniture and Chair
Factories, Carriage, Wagon
and Agricultural Works.

Write for our latest catalogue and price-
list. Correspondence solicited.



NO. 2 BAND SAW.

CIRCULAR SAW MILL.**CHEAPEST MILL FOR THE MONEY** IN THE MARKET.

PORTABLE MILL.

Prices, \$250 to \$600.

A. C. POWELL & SON, Syracuse, N. Y.**TREVOR MFG. CO. Lockport, N. Y.**

Successors to TREVOR & CO.

MANUFACTURERS OF

Shingle, Heading and Stave Machinery,

Heading Sawing Machines,

Heading Turners,

**VENEER CUTTING
MACHINES,**

STAVE CUTTERS,

Shingle Sawing Machinery,

Shingle Machinery.

Lathes for turning Handles for
Brooms, Mops, Forks, Hoes, Axes,
Picks, Hammers, Cant Hooks,
and for Ball-Bats, Peavy-Stocks,
Pike-Poles, Spokes, Etc.

If you want Machinery for Staves, Heading, Shingles or Veneer Cutting, send for our catalogue "A."
If you want Hand Lathes, send for catalogue "B." Please say where you saw this advertisement.
Address as above.

**The EUREKA SAND-PAPERING
MACHINE.**

For Smoothing Sash, Doors, Blinds
and all Plain Surface of Wood.

The bed is movable endways, and quickly ad-
justed to any thickness. The revolving head
carrying the sandpaper is easily swung across the
surface, and the pressure is regulated at the will
of the operator. For Circulars address

THE WINSHIP MFG. CO., Racine, Wis.

PRE-EMINENT IN QUALITY.

SAWS**THE "BARRY" BAND**

And the "BARRY" CIRCULAR SAWS
Manufactured by **W. B. BARRY SAW & SUPPLY CO.** Nos. 124 to 128 S. Penn Street,
INDIANAPOLIS, IND.

Price, \$140.00,

WITH 36-INCH SAW

**BURGUE'S**

IMPROVED
SELF-FEED
SHINGLE,
BOX BOARD
AND
Head Cutting
MACHINE,

Manufactured by

S. ADAMS & SON, ROME, N. Y.

This machine will cut 4,000 shingles in an hour, and from suitable blocks can make 80 shingles per minute.
Write for Circular No. 25, giving full particulars and cash discount. Cuts shingles up to 24 in. in length.

COLD**FITZSIMONS & CO.**

Manufacturers

IRON**DRAWN****SHAFTING****STEEL**

CLEVELAND, OHIO.

JOHN BECKER MFG. CO.**Die-Sinkers, Engravers and Machinists**

ALSO

BRASS FOUNDERS

AND MANUFACTURERS OF

SPECIAL TOOLS AND MACHINERY OF ALL KINDS.

Dies and Punches,
Soap Moulds,
Book Stamps and Dies.

Typewriting Machines,
Routing and Milling Machines,
Electrical Work.

Becker's Elliptograph,
Model Making,
Pattern Name Plates.

Nickel Plating and Bronzing.

157 PEARL STREET, BOSTON.

WORKSHOPS

WITHOUT STEAM POWER

SHOULD HAVE

BARNES'

Patent Foot Power Machinery, COMPLETE

Outfits for actual workshop business.

With them Builders, Cabinet

Makers, Metal and Wood Work-

ers complete with steam power.

Machines on trial if desired.

Proof of value, prices, full

detail, illustr'd catalogue, free.

W. F. & JOHN BARNES CO.

Rockford, Ill.

Address No 221 Ruby St.

T. K. CAREY & BROS., 26 Light

Street, Baltimore Agents.



Barnes' Pat. Upright Drill
30-inch Swing, with both
Worm and Lever Feed



Barnes' Pat. Engine Lathe
15 inch swing, 6-foot or 8-foot bed.
These machines are made a specialty
in our factory, they have advantages
not found in other machines in this
line. It will pay parties desiring to
purchase, or have more about the
uses of machine, to send for his
literary loan and price.

W. F. & JOHN BARNES CO. 221 Ruby St. Rockford, Ill.

Build and Repair Your Machinery

BY USING

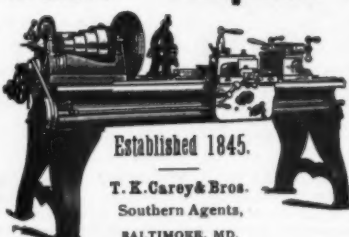
Engine Lathes, Planers,
Chucking Lathes, Hand Lathes,

AND

MACHINE TOOLS GENERALLY
MANUFACTURED BY

LATHE & MORSE TOOL CO.

Worcester, Mass., U. S. A.



Established 1845.

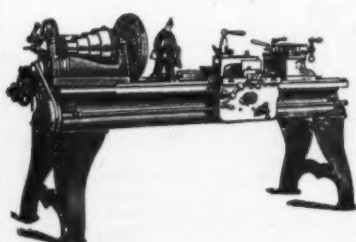
T. K. Carey & Bros.

Southern Agents,

BALTIMORE, MD.

THOS. K. CAREY & BROS.

No. 26 LIGHT STREET, BALTIMORE, MD.



IRON AND

WOOD-WORKING

Machinery.

Engines, Boilers, Duplex Pumps, Lathes, Planers, Drill
Presses, Pulleys, Shafting, Hangers, Belting, &c.

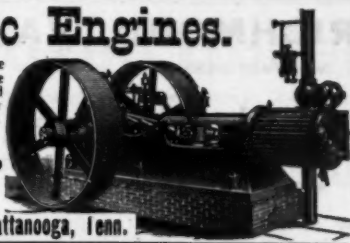
Railroad and Mill Supplies, Machinists' Tools, Etc.

Valley Automatic Engines.

Applicable to any and all uses requiring Close Regulation and Economical use of Steam. They are constructed throughout of selected material and finished in the best possible manner. Guaranteed to equal any of their class extant in Economy, Regulation, Durability and General Efficiency.

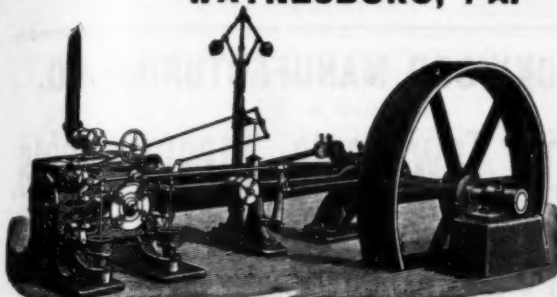
VALLEY IRON WORKS,
MANUFACTURERS,
WILLIAMSPORT, PENNA.

CASEY BOILER MFG. CO., Sales Agents, Chattanooga, Tenn.



ECLIPSE CORLISS ENGINES.

Frick Company, Engineers, Builders,
—WAYNESBORO, PA.—



40 to 1,000 H. P.
Made.

Condensing, Non-Condensing & Compound.
Send for Corliss Circular.

Ice-Making and Refrigerating Machinery.
Send or Ice-Machine Circular.

Special Automatic Electric Light Engines, Steam Boilers, Traction and Portable Engines, Saw Mills. Send for our General Catalogue.

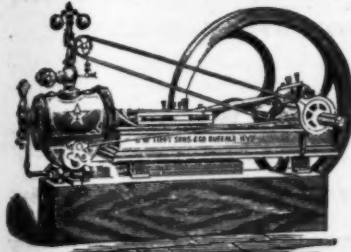
—) FOR THE LOWEST-PRICED FIRST-CLASS (—
ENGINES & BOILERS

ADDRESS

GEO. W. TIFFT, SONS & CO.,
BUFFALO, N. Y.

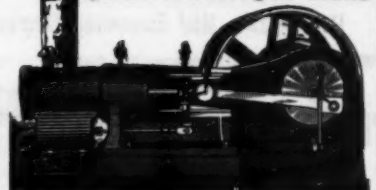
5 to 500 H. P. Special Stock Sizes 5 to 50 H. P., both Stationary and Semi-Portable.

A few good Second-Hand Engines and Boilers are for sale at an astonishingly low figure. Must be sold to make room for stock. Correspondence solicited. Mention this paper.

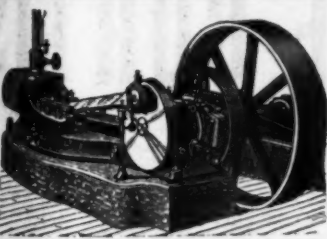
**BECK AUTOMATIC ENGINE.**

For Electric Light, Flour, Cotton, Woolen and Rolling Mill Service and all other purposes requiring power. Economical in Steam Consumption. Does not race. Speed constant under varying loads and pressure of steam. Simple.

Sturdy in construction. Requires no more space than double disc engines. Contracts



taken for complete steam plants, including boilers and all connections, masonry and erection. All work guaranteed. Send for catalogue and full particulars. Also builders of Portable, Vertical and Stationary Engines. Boilers of all styles, and Saw Mills. Address **TATLOR MFG. CO.,** Chambersburg, Pa.



Russell & Co.
MASSILLON, OHIO.

BUILDERS OF
**Automatic Engines,
BOILERS, ETC.**

Complete Power Plants Furnished.

SOUTHERN AGENCIES:
CAMPBELL, ZELL & CO., Baltimore, Md.
RUSSELL & CO., 75 S. Forsythe St., Atlanta, Ga.

ESTABLISHED 1864. INCORPORATED 1882.
Wm. A. HARRIS STEAM ENGINE CO.

(Successors to Wm. A. Harris.) **PROVIDENCE, R. I.**
Builders of HARRIS-CORLISS ENGINES,
FROM 20 TO 2,000 HORSE POWER.

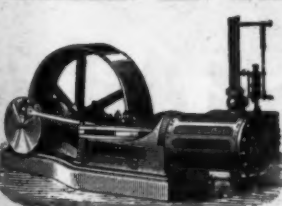
These Engines are carefully built of best materials and in different forms, such as Non-Condensing, Condensing and Compound Condensing. Send for copy of **ENGINEERS AND STEAM USERS' MANUAL**, by J. W. HILL, M. E. \$1.25. Mention this paper and send for catalogue. **WM. A. HARRIS, Pres. & Treas.**
The D. A. TOMPKINS CO., CHARLOTTE, N. C., Southern Agents.

ALEX. K. RARIG & CO.

COLUMBUS OHIO.

MANUFACTURERS OF
**Blast Furnace Plants,
AUTOMATIC CUT-OFF ENGINES,
HOISTING ENGINES,
Boilers, Boiler Plate Punches,
ROLLS AND SHEARS.**

**Clay-Working Machinery,
Steam Sewer Pipe Presses.**



Socket Pipe, Tile and Fire-Proof Dies, Wet and Dry Pans for Grinding and Tempering Clay for Sewer Pipe, Terra Cotta, Brick and Tile. We furnish complete outfit for Sewer Pipe and Brick Plants. Write for catalogue. Correspondence solicited. Mention this paper.

THE RICE AUTOMATIC

GUARANTEED
ECONOMY.
REGULATION-DURABILITY.

8 to 300 H. P. **SIMPLICITY-SELF-CONTAINED.**

PAIR & TANDEM-COMPOUNDS.

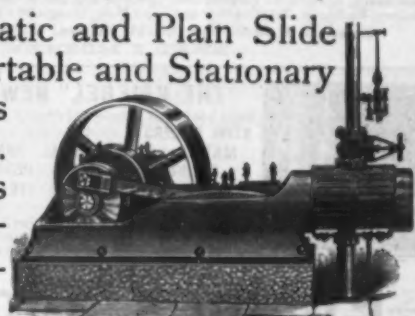
THE JOHN T. NOYE MFG CO. BUFFALO, N. Y.

Fairbanks, Morse & Co., Western Representatives, Chicago, St. Louis, Kansas City, Omaha, Denver, St. Paul.

**Porter Manfg. Co., Limited.**

—SYRACUSE, N. Y.—

Builders of Automatic and Plain Slide Valve Engines, Portable and Stationary Boilers, Stand Pipes for Water Works. Only Manufacturers of the New **ECONOMIZER PORTABLE BOILER.**



Complete motive power PLANTS FURNISHED.

THE HEWES & PHILLIPS
Newark, N. J. **IRON WORKS**

Improved CORLISS ENGINES. High Pressure. Condensing and Compound TUBULAR BOILERS. HEAVY FLY WHEELS. A SPECIALTY. IN SIZES UP TO 36 FT. DIA. BY 10 FT. FACE.

Manning, Parent, Vertical Boilers.

SKINNER ENGINE CO., ERIE, PA.

OVER 3400 IN USE.

MANUFACTURERS OF PORTABLE & STATIONARY **ENGINES & BOILERS**
SEND FOR CATALOGUE.
MORTON, REED & CO., Agents, Baltimore, Md.
NEW YORK and NEW ENGLAND OFFICE:
C. H. VINCENT & CO., 15 Cordwainer St., N. Y.

Strong, Well Built, Serviceable
12 TO 80 Horse Power.

STEAM ENGINES

Adapted to Heavy, Continuous Work. Every Engine tested under full load. For descriptive circulars, address
Chandler & Taylor, Indianapolis, Ind.

CLEVELAND AND HARDWICK
ENGINE WORKS
MANUFACTURERS OF STEAM ENGINES AND BOILERS.
ERIE, PENN.

Acme Automatic Engine,
With BRYANT'S Patent Safety Boiler.

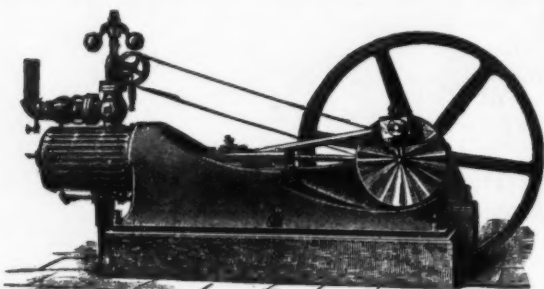
Sizes 1, 2 and 4 H. P. Fuel, Kerosene (Coal) Oil, 110° to 120° fire test. No dust, ash, or smoke. No skilled Engineer required. "Breaks" Tests show that 3 1/2 gal. fuel will deliver a full H. P. on belt for 30 hours, in the case of our 1 H. P. Engine and Boiler.

Rochester Machine Tool Works,
BUILDERS, ROCHESTER, N. Y.
SEND FOR CATALOGUE.

TALBOTT & SONS, RICHMOND, VA.

MANUFACTURERS OF

Engines and Boilers,



SAW, CORN AND WHEAT MILLS,
ROPE FEED for SAW MILLS, TIMBER GUAGES, graduated by 1-16 of an inch. Shafting, Hangers and Pulleys,

Cotton-Seed Oil Mill Machinery,
MODERN COTTON GINNERIES.

BRANCH OFFICES:

MACON, GA.

CHARLOTTE, N. C.

ESTIMATES AND CONTRACTS MADE FOR COMPLETE OUTFITS,
Embracing the Latest and Best Improvement.

ENGINES AND BOILERS



FROM 2 TO 400 HORSE-POWER.

The strongest, most compact and best built outfits on the market.

Wood-working and Iron-working Machinery a Specialty.

Send for Catalogue B.

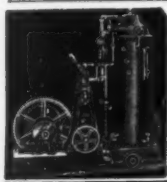
THE GLOBE MACHINE CO.
35 Broadway, New York.

Why not subscribe for the MANUFACTURERS' RECORD? Price \$4 per year or six months for \$2.

THE BIRDSALL COMPANY.

—OF AUBURN, N. Y.—

Stationary, Automatic, Portable and Traction Engines, Return, Tubular, Locomotive and Steam Heating Boilers, Radiators, Portable Saw and Grist Mills, Shingle Machines, Threshers, Fruit Evaporators, etc., etc
Branch House, 203 North Street, Moon Building, Baltimore, Md.
FRED. I. MOSHER, Manager.



"THE KRIEBEL" NEW MODEL STEAM ENGINES.

Single and Double Cylinder STATIONARY, SEMI-PORTABLE, MARINE and HOISTING ENGINES. STEEL BOILERS of all styles and sizes. AUTOMATIC and HORIZONTAL THROTTLING ENGINES. GOVERNORS, INJECTORS, STEAM PUMPS, ETC.

Send for Catalogue, stating what you wish price on.
RICE & WHITACRE MFG. CO.
47 & 49 S. Canal Street, CHICAGO, ILL.



Engines and Boilers

From 1 to 500 horse-power; Portable and Stationary, Horizontal and Vertical. Boilers of plain tubular type, locomotive fire-box pattern, vertical and two-flue, steel or iron, as desired. Engines, Plain Slide Valve or Automatic Cut-Off. Send for catalogue, giving exact requirements, that you may obtain our estimate. Freight paid your station if desired.

W. E. DREW, Agent.

S. C. FORSAITH MACHINE CO. Machinery and General Machinery Dealers, Manchester, N. H.

SHERWOOD MFG. CO.



THE CELEBRATED UNION INJECTOR.

Only One Lever to Operate.
The Eagle Ejector.

The Best Jet Pump Made.

Felthousen's Cylinder Oil Pumps; Improved Gauge Cocks; Adjustable Spring Flue Scraper; Improved Ratchet Drills; Combination Pipe and Nut Wrench; Compression Grease Cups.
Buffalo Glass Oil Cups & Lubricators
Pop Valves; Steam and Water Gauges; Single Bell and Chime Steam Whistles; Piston and Valve Rod Packing; Supplies all kinds for Engines and Boilers.

SHERWOOD MFG. CO.

Sole Manufacturers, BUFFALO, N. Y.

THE RELIANCE

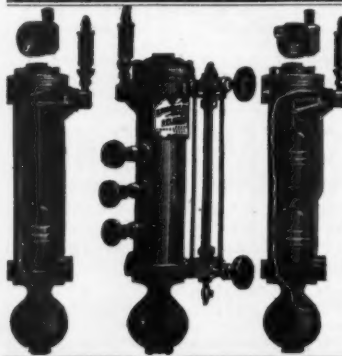
Safety Water Columns

OVER 15,000 IN USE.

SAFETY of Life and Property. ECONOMY of steam, of fuel, of repairs, of wear on the boiler.

The Most Elegant and Most Economical Water Columns ever placed on boilers. No steam user or engineer can afford to operate boilers without them. This is the reason why they have been ADOPTED BY MANY OF THE LARGEST STEAM USERS IN THE WORLD.

Every Column Warranted. Send for price list.
The RELIANCE GAUGE CO., Sole Manufacturers,
Argyle Building, Cleveland, O.
For sale by all Dealers. For sale by all Boiler Makers.



THE LOCKWOOD MANUFACTURING CO.

BUILDERS OF

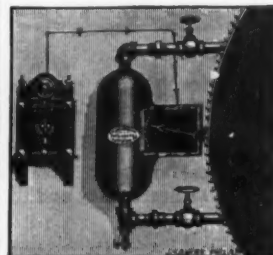
Steamships, Tow Boats, Steam Yachts,

ENGINES AND GENERAL MACHINERY.

ARTESIAN WELL TOOLS.

Send for Estimates.

EAST BOSTON, MASS.



Electric Water Level Indicators

FOR STEAM BOILERS.

Indications given at any distance from the Boilers. Fully guaranteed. Circulars and prices on application.

JANNEY & WICKERSHAM,

P. O. Box 422, POTTSTOWN, PA.

Eastern Agent, SETH W. FULLER, Boston, Mass.

Agents and salesmen wanted.

THE KENNEDY INJECTOR

Most Durable, Most Economical, Simplest and Best on the Market.

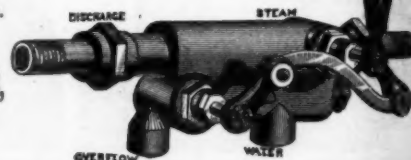
Warranted to Lift Water 25 feet.

MANUFACTURED BY

The Forest City Brass Works,

90 to 96 Morwin St. 2 to 38 Leonard St.

CLEVELAND, O.



THE CURTIS

PATENT RETURN STEAM TRAP.

It is noiseless, positive, rapid, will return all condensation back into the boiler, and works equally well in connection with reduced pressure or exhaust steam, also when the return is below the water line of the boiler.

THE CURTIS REGULATOR COMPANY,
No. 160 BEVERLY ST., BOSTON, MASS.

GENERAL AGENCIES.

NEW YORK, 109 Liberty st.

CHICAGO, 218 Lake st.

PHILADELPHIA, 2035 N. Front st.

MINNEAPOLIS, 210 S. Third st.



Litofuge
is the best boiler compound.

LITOFUGE MANUF'G CO. 62 JOHN ST. NEW-YORK.

The Zell Improved Boiler

Most Economical Steam Generators on the market.

RESULTS GUARANTEED.

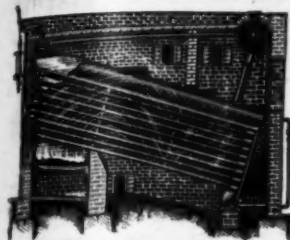
CAMPBELL & ZELL CO.

IRON FOUNDERS,

Manufacturers and Engineers,
ESSEX and BURKE STS.

BALTIMORE, MD.

New York Office, 15 Cortlandt Street.
Phila. Office, Room 918, Drexel Bldg. Send for circulars.

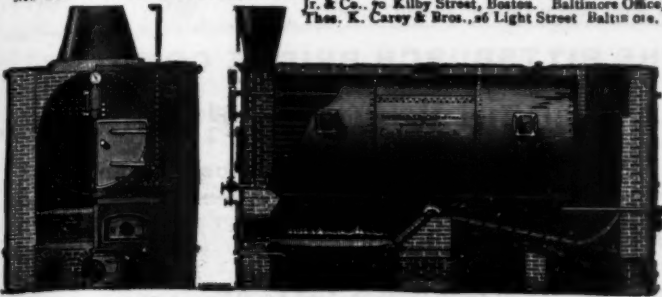


Weitmyer Patent Furnace.

Manufactured and sold by FOUNDRY AND MACHINE DEPARTMENT,

HARRISBURG CAR MANUFACTURING CO., Harrisburg, Pa.

New York Office, Messrs. Fleming & Kimball, 17 Day Street. New England Office, Messrs. John Post, Jr. & Co., Kilby Street, Boston. Baltimore Office, Messrs. Thos. K. Carey & Bros., 26 Light Street. Baltimore Office.



For automatic Engines, Portable and Traction Engines, Steam Road Rollers, Boilers of all descriptions.

STEAM BOILERS.

HOISTING AND MINING ENGINES.

EDWARD KENDALL & SONS,

MANUFACTURERS,

CAMBRIDGEPORT, MASS.

The Tudor Boiler Manufacturing Co. Steam Boiler and Tank Makers

OFFICE, 242 E. Pearl St. (opp. Pittsburg, Cincinnati & St. Louis Ry.), CINCINNATI, O.

SECOND-HAND BOILERS ALWAYS ON HAND.



ARMSTRONG BROS.

MANUFACTURERS OF

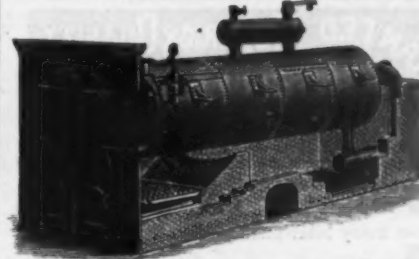
Engines and Boilers

ALL SIZES AND KINDS.

Output Last Year 1473 Engines and Boilers.

Have large stock New Standard Boilers, and also large stock Second-hand Engines and Boilers, all sizes and kinds. Will dispose of at a bargain. For Circulars address

ARMSTRONG BROS., SPRINGFIELD, OHIO.



Without any question the Greatest
FUEL SAVER
of any Regulator.

Hallock Damper Regulator.

UPWARDS OF 2,000 NOW IN USE.

Keeps a steady pressure of steam. Saves fuel and gives regularity of power. Simple in construction. It does not get out of order. Uses no water. Requires no tank. Will outlive any boiler.

Every machine warranted.

AUSTIN ADAMS, Sole Agent 40 Dey Street, New York.

Regulator can be taken apart, cleaned and put together in five minutes

SEND FOR THIS BOOK
FREE ON APPLICATION.

BABCOCK & WILCOX CO. WATER TUBE

107 HOPE ST. ST. N.Y.

30 CORTLANDT ST. N.Y.

GLASGOW, SCOTLAND.

STEAM BOILERS

MANUFACTORIES IN UNITED STATES, SCOTLAND, FRANCE, GERMANY & AUSTRIA.

Awarded the Grand Prize at late Paris Exposition.

HEINE SAFETY BOILER CO.

PATENT

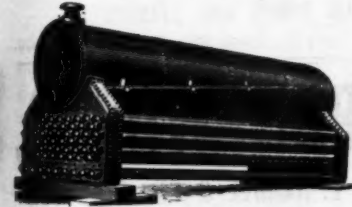
Safety Water-Tube Steam Boilers.

ECONOMY IN FUEL AND SPACE.

FREEDOM FROM SCALING.

POSITIVE CIRCULATION.

Equally adapted for Power or Heating Purposes, for Clear or Muddy Water, and any kind of Fuel. Send for Circular J to



HEINE SAFETY BOILER CO., Bank of Commerce Building, ST. LOUIS, MO.

OR TO OUR AGENTS:

Bidson Iron Works, San Francisco, Cal. VanZile, McCormack & Co., Albany, N. Y.
Searns, Roger & Co., 3 Duff Block, Denver, Col. Jas. H. Harris, 82 Madison Street, Chicago, Ill.
Jas. K. Rugg & Co., 107 W. Second St., L. M-tesser, 34 St. Charles St., New Orleans, La.
Cincinnati, O. R. M. Huston, 239 Broadway, New York.
H. F. Collins & Co., 34 Lewis Bldg., Pittsburg, Pa. English, Morse & Co., Kansas City, Mo.
Jas. P. Witherow, Lewis Block, Pittsburg, Pa. Seeger & Guernsey Co., City of Mexico, Mex.

JARVIS Patent FURNACE

For Setting Steam Boilers.

Economy of Fuel, with increased capacity of Steam Power. Like the Siemens Process of Making Steel, it utilizes the waste gases with hot air on top of the fire. Will burn all kinds of waste fuel without a blast, including Slack Coal, Sawdust, Logwood Chips, &c. Send for Circulars.

JARVIS ENGINEERING CO.

J. N. PRATT, Treas. and Gen'l Manager.
61 Oliver Street, BOSTON, MASS.

SOUTHERN REFERENCES:

Eagle & Phenix Mfg. Company, Columbus, Ga.
Anniston Mfg. Co., Anniston, Ala.
P. King Mfg. Co., Augusta, Ga.
Wise Mining Co., Charleston S. C.
Maryland Pavement Co., Baltimore, Md.
Brush Electric Light Co., Baltimore, Md.
Ritrick, Matosca and Battersea Mfg. Co's., Petersburg, Va.
Eaton Fertilizing Co., Baltimore, Md.
Tanner & Delaney Engine Co., Richmond Va.
Albany Mills, Augusta, Ga.
Graniteville Mfg. Co., Graniteville, S. C.
Charleston Eggling Co., Charleston, S. C.
P. H. Mayo & Bros., Richmond, Va.
Phosphate Mining Co., Beaufort, S. C.
Brush Swan Electric Light Co., Norfolk, Va.
Columbus Ice & Refrigerator Co., Columbus, Ga.
Lenoir Manufacturing Co., Lenoir, East Tennessee.
Vaucluse Mill, Graniteville, S. C.
Charleston Electric Light Co., Charleston, S. C.

Wm. Baragwanath & Son

FEED WATER

HEATING

PURIFYING APPARATUS

48-50 & 52
W. Division St.
CHICAGO
ILL.

WEBSTER & COMSTOCK MFG. CO. 123, 125, 127 Ontario St., & 32, 34, 36 Erie St. CHICAGO, ILL.

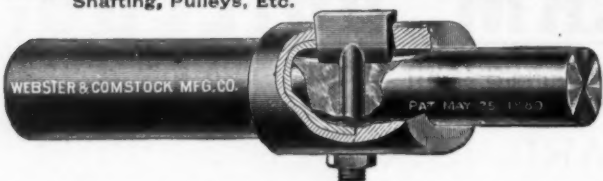
MANUFACTURERS OF
MACDONALD FRICTION CLUTCHES,
Shafting, Pulleys, Etc.

FOUNDERS AND GENERAL MACHINISTS.

COTTON, RUBBER and LEATHER

Coker-Metcalf Power Grain Shovel.

DEALERS IN
BELTING.



New Improved Conveyor Coupling, so arranged that by taking out bolt any desired section may be removed.



"HERCULES" Steel Scoop.



PATENTED APR. 17-1889.
SPIRAL STEEL CONVEYOR.



Send for new No. 14 catalogue 13-23 Or d street, Seneca Falls, N. Y., and 60 Barclay st., New York. GENERAL AGENTS: Goulds, Caldwell county, Chicago, I L; N. O. Nelson Mfg. Co., St. Louis, Mo.



The Corey Car & Mfg. Co.

Manufacturers of Every Description of



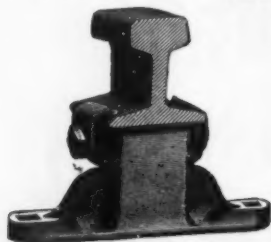
Dumping and Mining Cars
IN WOOD, IRON AND STEEL.

PORTABLE TRACK and SWITCHES,

301 & 303 Phenix Building,

CHICAGO, ILL.

R. T. WHITE, 12 Pearl Street,
ROOM 6,
BOSTON, MASS.



DAISY CHAIR.

Patented January 28th, 1890.

Sample Chair and Section of Rail sent (express prepaid) to prospective purchasers. Made of cast iron or cast steel mixture and for any form of rail having a T rail form of base.

Improved Patented Material
FOR
Street Railway Roadbeds.

BEST MATERIAL. LOWEST PRICES.
CORRESPONDENCE SOLICITED.

THOMAS ASHBURNER, Western Agent,
KANSAS CITY, MO.

LEWIS J. MILLER, PHILADELPHIA, PA. MILLER & BIERCE, WILL W. BIERCE, MEMPHIS, TENN.

Engineers and Contractors



Sole Agents for

Lewis Miller's Improved Steam and Hydraulic Cotton Compress,
(Lewis Miller's and John F. Taylor's Patents.)

The most powerful, economical, and the fastest working Compress built. The only Compress in the world that will load cars and vessels to their full tonnage.

Also Agents and Manufacturers of Steam Engines, Water Engines, Pumps, Boilers, and Heavy Machinery in General.

OFFICES:

PHILADELPHIA, PA., [ROOM 272 & 273 GRAND BLDG.] MEMPHIS, TENN., ROOM 12, COTTON EXCHANGE.

FOR MINING MACHINERY,
HOISTING ENGINES,
AIR COMPRESSORS,
All Superior in Design and Efficiency.

Write to
MORRIS COUNTY
MACHINE COMPANY,
DOVER, N. J.

THE PITTSBURGH BRIDGE COMPANY,
Iron Bridges, Viaducts and Buildings

R. MERYDITH, Agent at Chattanooga, Tenn.

POTOMAC BRIDGE WORKS,

FREDERICK CITY, MD.

BRIDGE ENGINEER and CONTRACTOR.

Iron and Steel Bridges, Roofs, Buildings, Masonry and Pile Foundations. Contracts taken for Substructure and Superstructure Entire.

Salem Foundry & Machine Shop
—SALEM, MASS.—

ELEVATORS,

—AUTOMATIC HATCH DOORS, AUTOMATIC LOCK GATES.—

Send for Illustrated Circular.

THE ASHTON VALVE CO.'S
Lock-Up "POP" Safety Valves,

FOR STATIONARY, MARINE, LOCOMOTIVE AND HOISTING ENGINE BOILERS.

Instant and perfect relief given. Non-corrosive and always reliable. Also,

—WATER RELIEF VALVES FOR STEAM PUMPS AND STANDPIPES.—

271 Franklin St., BOSTON, MASS. New York Office, 107 Liberty St. Branch Office, 218 Lake St., CHICAGO.

CHICKASAW IRON WORKS,

JOHN E. RANDLE & CO., Prop'rs,

MEMPHIS, TENN.

—MANUFACTURERS OF—

Architectural Iron Work,
IRON AND BRASS CASTINGS.

LOCOMOTIVES for Saw Mill Tramways, Log and Lumber Trucks.

WROUGHT IRON WORK.

ATLAS ENGINES AND BOILERS.

Saw Mills, Cotton Presses, Shafting, Couplings, Pulleys, &c.

MACHINERY SUPPLIES AND REPAIRS.



FRANK RHONER & CO.

—MANUFACTURERS OF—

Parlor and Hall Furniture

Call and See Our Stylish Goods at Popular Prices.

Call and See Our Goods in Gilt and Old Silver.

WAREHOUSE: 437 E. 22d ST., NEW YORK, bet. Ave. A and First Ave.

Southern Railroads.

Railroad Extensions.

From present appearances this year will be noted in the history of the South as one of railroad extensions. Not only are nearly all the trunk lines building feeders and short connections that enable them to give and receive traffic from other great railroads, but they are also pushing their main lines to points at some distance from their present termini. If this movement continues unabated for the next five years the maps made at the end of that time of many of the Southern States will show that they are as well gridironed with roads as are Ohio and Illinois. A gratifying fact in connection with this extension movement is that very large areas of country that have never before had railroad facilities will be opened up to travel and trade, and the development of their natural resources of every kind will circulate a great deal of money in communities which now see very little of that useful article. Mr. Pat Calhoun said last spring, in his speech at Atlanta, that railroads were great developers, and no one can travel over the new roads in the South without being struck with the truthfulness of that remark.

At the rate work is progressing little time will elapse before the Marietta & North Georgia Railway and its Northern extension, the Knoxville Southern, will be united, thus making a very direct line from Atlanta to Knoxville, the Western & Atlantic completing the gap between Marietta and Atlanta. The gauge of the Marietta & North Georgia is also being widened, and the entire line will be standard gauge by July 1. The company has a charter granted by the last Georgia legislature for an extension from Marietta to Atlanta, and it is not unlikely that it will soon have its own road between those two points. In connection with the Knoxville, Cumberland Gap & Louisville Road, which has largely the same ownership, there will be a continuous and direct line between Middlesborough and Atlanta.

THE Corpus Christi & South American Railroad, which is being surveyed from Corpus Christi to Brownsville, Texas, has been granted a subsidy of \$13,000 by the Mexican government for each mile built from Matamoras to the Guatemala line. Mr. S. A. Mallory, of the Fitzgerald & Mallory Construction Co., of St. Louis, is vice-president and general manager of the company. In an interview lately he said that immediately upon the completion of the survey track-laying will be commenced between Corpus Christi and Brownsville, and the road will then be continued through Mexico.

A RUMOR that the Louisville & Nashville Railroad Co. is negotiating for the purchase of the Little Rock & Memphis Railroad is causing considerable speculation as to the company's intentions. This will be the first time that either of the great Eastern companies, the Louisville & Nashville or the Richmond & West Point Terminal has ventured west of the Mississippi. With one or two notable exceptions they have secured almost everything worth having in the South east of the Father of Waters, but heretofore the Goulds, the Missouri,

Kansas & Texas, and the Atchison, Topeka & Santa Fe have had it pretty much to themselves on the other side.

WORK is progressing very rapidly on the Ohio extension of the Norfolk & Western Railroad, which was referred to in the construction column at the time contracts were let. It is stated that nearly 5,000 men are engaged in construction of this line, which is 191 miles long. The work in some parts is very difficult. At the head waters of the Twelve Pole river, in West Virginia, there is a tunnel over a third of a mile long. The contracts call for the completion of the road by June 1, 1891.

THE route of the Georgia, Tennessee & Illinois Railroad has not yet been definitely decided upon. Several surveys have been made—one from Tallapoosa, Ga. to Chattanooga via Cave Springs; another is now being run from Tallapoosa to Tecumseh, Bluffton, Rock Run, Cedar Bluff, Fort Payne and Stevenson, Ala. A letter was received from Mr. J. H. Plummer, of Tallapoosa, secretary of the company, a few days ago, in which he states that the permanent organization of the company has been effected and enough stock subscribed to the enterprise to ensure its success.

THE Baltimore & Ohio Railroad Co. at its monthly meeting reported an increase of net earnings during the past seven months over the corresponding time last year of \$1,154,499. The net increase in April, 1890, compared with April, 1889, is \$140,151. The company contemplates changing the immense repair shops at Mt. Clare, in Baltimore, into erection shops, which will give a new impetus to that place, which of late has borne a rather deserted appearance.

A NEW YORK dispatch states that a new trans-continental scheme is under way, which will take in the South on its route instead of the more central portion of the country. Calvin S. Brice and General Thomas, of the East Tennessee, Virginia & Georgia, and Collis P. Huntington, of the Southern Pacific, are said to be at the head of the project. The plans are not only a change as far as this continent is concerned, but even affects the Pacific mail steamship line, the terminus of which it is proposed to make San Francisco, instead of Tacoma, Washington, as is now the case. The route of the new line is said to extend through Baltimore, Cincinnati, Chattanooga, Birmingham, Meridian, New Orleans and the other cities along the system of the Richmond & West Point Terminal.

OUT of all the talk and speculation has finally come a definite offer for the 32,500 shares of Baltimore & Ohio stock owned by the city of Baltimore. Mr. Edward R. Bacon, of New York, offers to buy the stock at par and pay for it before July 1st. The proposition has been, however, declined with the unanimous concurrence of the board of city finance commissioners, who thought the price too low. Mr. Enoc Pratt, one of the commissioners, thought that the stock should certainly bring 125. Others would be willing to see it go for less. All the members of the board would recommend the sale of the stock at what they would consider a fair price. It is both affirmed and denied that the proposition will be submitted to the city council for its decision. At any rate, whether it be or not, the council has in a measure taken the matter into its own hands, and there is already an ordinance before one of the branches authorizing the sale of the stock.

Just who Mr. Bacon wants to buy the stock for is impossible to find out. He says it is for a private syndicate composed of his friends, but it is still said that the Richmond Terminal wants control of the road. The syndicate is stated to have purchased the holdings of the State of Maryland and of the Johns Hopkins University, which would very likely give them practical control of the road should they be able to secure the city stock. The rejection of the syndicate's offer has had a tendency to lower the price of the B. & O. stock on the market. Mr. Bacon, who represents the syndicate, is vice-president of the Mobile & Birmingham Railroad, one of the roads in which the East Tennessee, Virginia & Georgia owns a majority of the stock. He is also president of the lately reorganized Baltimore & Ohio Southwestern Railroad Co.

WORK has been commenced on the huge steel draw-bridge of the Memphis & Charleston Railroad across the Tennessee river at Florence, Ala. The bridge is to be 412 feet in length, and rests on immense stone piers. It is another triumph for the South in the steel industry that this bridge was made in Alabama. The Shelby Iron Works, of Shelby, were the makers.

Railroad Construction

Asheville, N. C.—Dummy or Electrical Railroad.—A company is being organized by J. B. Bostic, D. D. Suttle, W. T. Reynolds and others for the purpose of building a dummy or electrical railroad to Weaverville, about 8 miles distant.

Augusta, Ga.—Electrical Railroad.—The North Augusta Electrical Railway Co. has secured permission to construct its lines on additional streets.

Barrow-on-Potomac, Va.—The Barrow Land Co., mentioned elsewhere in this issue, will, it is reported, construct a railroad from Washington Junction, Md., to its town-site at Barrow-on-Potomac.

Bridgeport, Texas.—Railroad.—Preliminary surveys have been completed on the Bridgeport & Decatur Railroad, previously referred to. Wm. Bradburn, of Marshall, is chief engineer.

Carrollton, Ga.—Railroad.—The Chattanooga, Rome & Columbus Railroad Co. (office, Columbus) has, it is reported, completed arrangements for the extension of its road to Columbus, previously referred to.

Chattanooga, Tenn.—Railroad.—The Chattanooga Southern Railroad Co. is said to be interested in the construction of a railroad to extend to Middlesborough, Ky.

Dallas, Texas.—Electrical Railroad.—The Metropolitan Railroad Co., composed of M. Lasker, Julius Runge, L. M. Oppenheimer and others has applied for permission to construct a street railroad.

Deftford, Tenn.—Street Railroad.—The Deftford Land & Improvement Co., lately mentioned, will construct a street railroad to South Pittsburg. Motive power not decided as yet.

Dumfries, Va.—Railroad.—The parties mentioned elsewhere in this issue as purchasing land for the purpose of developing, etc., will, it is stated, construct a railroad from the Potomac river to the site via Dumfries.

Dunlap, Tenn.—Railroad.—The Nashville, Chattanooga & St. Louis Railroad Co. (office, Nashville) is said to have let contract for its extension to Pikeville, mentioned last week, to Foster & Creighton, of Nashville. The distance is about 18 miles.

Florence, Ala.—Electrical Railroad.—A Kansas City (Mo.) syndicate contemplates, it is stated, constructing an electrical railroad to Sheffield and Tusculum to cost about \$250,000. E. J. Lawless, of Kansas City, Mo., can give information.

Frankfort, Ky.—Bills have passed the legislature to incorporate the Greensburg & Glasgow Railroad Co.; to charter the Eminence & Drennon Springs Railroad Co.; to charter the Eminence New Castle & Campbellsburg Dummy Railroad Co.; to charter the Carlisle, Lower Blue Lick Springs & Mt. Olivet Railroad Co.; to charter the Jellico & Munfordville Railroad Co.

Gadsden, Ala.—The Nashville, Chattanooga & St. Louis Railroad Co. (office, Nashville, Tenn.) has purchased the Tennessee & Coosa Railroad, lately referred to.

Henderson, Ky.—Belt Railroad.—Contract for constructing the Henderson Belt Railroad, previously mentioned, has been let, it is reported, to P. J. Manion.

Hillister, Texas.—Tram-road.—The Tyler County Lumber Co. will construct a tram-road.

Kingwood, W. Va.—Railroad.—The Tunnelton,

Kingwood & Fairchance Railroad Co. is considering the extension of its road.

Lexington, Ky.—Railroad.—An election will be held on July 12 for the purpose of ascertaining as to the subscription of \$30,000 to the Richmond & Tates' Creek Railroad Co., previously mentioned.

Louisville, Ky.—The Ohio River Contract Co., mentioned last week, was organized for the purpose of constructing a short railroad connection.

Lynchburg, Va.—Street Railroad.—The West Lynchburg Land Co. is reported as having purchased the Lynchburg Street Railway, 3½ miles in length.

Macon, Ga.—Railroad.—Surveys have been commenced on the projected Macon & Atlantic Railroad, lately mentioned.

Memphis, Tenn.—Electrical Railroad.—The Chicago (Ill.) syndicate, represented by C. B. Holmes, has asked permission to operate the street railroads owned by it by electricity.

Oakville, Texas.—Railroad.—The Oakville & Eastern Railroad Co. has been organized to construct a railroad to a connection with the Missouri Pacific Railroad near Beville.

Orlando, Fla.—N. L. Mills & R. E. Green have purchased the Orlando Street Railroad, lately mentioned.

Oxford, N. C.—Street Railroad.—H. C. Herndon, of Oxford; B. S. German, R. T. Gray, P. M. Wilson, and C. M. Hawkins, and John A. Hambleton & Co., of Baltimore, Md., have organized the street railroad company mentioned last week.

Paducah, Ky.—Railroad.—Johnson Bros. & Fraught, of Paducah, have contract it is stated, for grading 65 miles of the Paducah, Tennessee & Alabama Railroad, mentioned last week.

Pecos City, Texas.—Railroad.—W. C. Bradbury & Co., Denver, Colo., have secured contract for grading, bridging, track-laying, material, etc., of the first 100 miles of the Pecos Valley Railroad, lately referred to, from Pecos City to Eddy, N. M. The contract will, it is stated, amount to about \$1,000,000, and calls for completion of the road before the end of 1890.

Petersburgh, W. Va.—Railroad.—Grant district has refused, by vote of 437 to 170, to subscribe \$15,000 towards the building of the Ohio & West Virginia Southern Railroad, previously reported.

Plant City, Fla.—Railroad.—It is reported that Birmingham (Ala.) parties will construct a railroad from Plant City to Fort Meade.

Prince Fredericktown, Md.—Railroad.—It is reported that New York parties, mentioned elsewhere in this issue as to erect a hotel and establish summer resort, will construct a railroad from same to Washington, D. C.

Princeton, Ky.—The Ohio Valley Railroad Co. (office, Evansville, Ind.), previously mentioned, has authorized a loan of \$1,500,000, for which mortgage on entire property is given.

Roanoke, Va.—Street Railroad.—The Roanoke Street Railroad Co., previously reported as to extend its line to Salem, is said to have let contract for same to George O. Houston & Co.

Riverton (P. O. Chickasaw), Ala.—Electrical Railroad.—The Riverton Land Co., mentioned elsewhere in this issue, intends constructing an electrical street railroad. R. A. Chapman, engineer, can give information.

San Angelo, Texas.—Railroad.—A company is reported as being organized for the purpose of constructing the railroad, previously reported, to extend to a connection with the Texas & Pacific Railway, about 100 miles distant. W. A. Savage, of Oxford, Ga., can possibly give information.

Shreveport, La.—Railroad.—The Northwestern Construction Co. has been organized for the purpose of constructing the Gulf, Shreveport & Kansas City Railroad, previously mentioned, from the Louisiana State line to Sabine Pass.

St. Albans, W. Va.—Railroad.—It is reported that the St. Albans & Coal River Railroad Co. will commence work on its road, previously mentioned, within 60 days. Land for terminal facilities is said to have been purchased.

Sylacauga, Ala.—Railroad.—Work has been commenced on the extension, previously referred to, of the Anniston & Atlantic Railroad (office, Anniston) from Sylacauga to Shelby.

Tredegar (P. O. Jacksonville), Ala.—Railroad.—It is stated that the Black Mountain Mineral Railroad (office, Birmingham) is to be extended to Chattanooga, Tenn.

Troy, Ala.—Railroad.—It is reported that the Central Railroad & Banking Co. of Georgia (office, Savannah, Ga.) will commence the extension of its road to Andalusia this coming fall.

Tuckahoe, W. Va.—Tram-road.—A. E. Hudleston, of White Sulphur district, is constructing a tram-road 5 miles long.

Valdosta, Ga.—Tram road.—The Muskegon Lumber Co. will construct a tram-road.

Winston, N. C.—The Winston-Salem Street Railway Co. has given a mortgage of \$100,000 in favor of the New York Loan & Trust Co., of New York city.

San Antonio as a Railroad Center.

[Special Cor. MANUFACTURERS' RECORD.]

SAN ANTONIO, TEXAS, May 27, 1890.

San Antonio doesn't boast about being a great railroad center, but she has the proud satisfaction of knowing that she is the center of the most important railroads in the State, and that two of the vast trans-continental lines which traverse this State cross here, and have their interests closely identified with the interests of her citizens.

The San Antonio & Aransas Pass Railroad is decidedly a home institution, this being its initial point, from which its lines or branches stretch out in almost all directions. This road was originally chartered and built to Aransas Pass, on the Gulf of Mexico. The building of this road to that point was in pursuance of the idea that deep water could be procured and maintained there in a shorter time and at less expense than anywhere else on the Gulf coast of this State; and now that Congress has authorized it, private capital is ready and willing to undertake at once to make it a deep-water port, which will not only largely increase the present heavy traffic of the road, but eventuate immensely to the advantage of San Antonio. A branch of this road is now being pressed to completion to tap the marble regions of Gillespie county and the great coal fields and iron-ribbed hills of Llano county, while another is pressing on to Waco, and still another to Laredo, to draw the trade of those two commercial centers to this point, and to Aransas Pass, to connect with steamship lines to Europe and South America, when deep water shall have been procured there and the Pass made available for vessels of heavy draft.

The International & Great Northern Road, with its connections by the Missouri Pacific system and the Iron Mountain Roads, has extensive depot grounds and buildings here, and connects this city with the City of Mexico by means of the Mexican National Road. Two through passenger trains to and from St. Louis and the City of Mexico daily transport hundreds of passengers, while stock and freight trains are arriving and departing almost every hour in the day. Over this road passes the great bulk of the immense numbers of live stock handled in this city, said now to be the largest horse market in the world, and soon to be of vaster proportions still, because of the enhanced facilities for handling afforded by the Union stockyards now being built. No adequate conception can be formed of the numbers of stock annually handled by this road, and one hears with amazement that from actual computation 100,000 head of horses and mules, worth \$4,000,000, and 750,000 head of cattle, worth \$9,000,000, were shipped from this market during the year 1889.

The Southern Pacific, a through line (with its connections at New Orleans) from the "Hub" to San Francisco, the great city by the sea, has also here work and repair shops and large depots for the accommodation of the immense local traffic and its daily through passenger and freight trains from ocean to ocean.

These roads all do an immense business, which is steadily on the increase, as I am informed by officers who know whereof they speak, the business for the first four months of this year being 50 per cent. above that of the corresponding months of 1889.

San Antonio is no "whistling station," but a great emporium to which come the products of the North, East and West and of the Republic of Mexico, and she in turn sends out her cotton, wool, horses, cattle, sheep, hides and pelts, and in the near future will supply her own people and Mexico with manufactured cotton, woolen and leather goods and canned fruits and vegetables, while the coal fields and iron

and marble regions now being penetrated by her own railroad will afford fuel for her factories, iron and granite and marble fronts for the storehouses and residences of her thriving people, and steel rails for her roads that empty the treasures of earth and sea in her lap.

ELIAS EDMONDS.

Cotton-Seed Hulls.

The study of economics in connection with the cotton plant is marvellously fruitful. We have frequently had occasion to refer in these columns to new discoveries in connection with this plant until it seemed as though the end must have been reached. Among these other discoveries, we have mentioned the attempts of a Texas man to make pulp for paper making and like work out of the fibrous parts of the hull. These researches seem to have proved, beyond question, that pulp of fine quality can be made in this way, not only pulp that can be used in making the coarser grades of paper, but for making "linen" paper just as the oil of the cotton seed makes "olive oil." The fibrous part of the hull is used for pulp-making, while the residue is pressed into cakes to be used as food for cattle or to manufacture into fertilizer. Paper has already been made of this pulp by this Texas experimenter, and it is understood that a large factory is to be built at Houston or elsewhere to manufacture it on an extensive scale.

Another experimenter—this one in Georgia—has been working on the same lines and has gone more into detail than the Texas man. The Georgian has perfected a process which produces excellent pulp from the fibrous part of the cotton-seed hull, but instead of pressing the residue into cakes, he makes it into liquid fertilizer. It takes the earth a long time to digest the ingredients of the cake, but by liquifying these ingredients the plants can absorb them readily. Not only is this liquid fertilizer very cheap, but it is claimed that the chemicals used in reducing the residue of the hulls to liquid form does not in any way injure vegetation, but is sure death to bugs, worms and their eggs.

Surely, the cotton plant is like the South—a marvel of resources.

Southern Financial News.

NEW BANKS.

Bastrop, La.—A national bank with a capital stock of \$50,000 is being organized. Hon. C. Newton, J. A. Cason and J. P. Madison are interested.

Brunswick, Ga.—The stockholders of the Oglethorpe National Bank will hold a meeting on July 1 to consider the advisability of increasing its capital stock.

Brunswick, Ga.—It is stated a national bank will be organized with a capital of \$500,000. Those interested are D. G. Ambler, of Jacksonville, Fla.; J. C. Stocton, F. M. Scarlett, of Brunswick, and others.

Covington, Ky.—The Covington Trust Co., previously reported, has a capital stock of \$100,000. James O'Hara, J. P. Ernst, J. L. Sanford and others are among the incorporators.

Frankfort, Ky.—Bills are before the legislature to charter the Harrison County Bank by William Mitchell and C. M. Grubbs, of Mt. Sterling; to charter the Farmers' Bank of Williamsburg, Ky.; to charter the Farmers' Bank of West Liberty.

Galveston, Texas.—The Texas Guarantee & Trust Co. has been organized by R. S. Willis, J. H. Hutchings, J. C. League and others.

Griffin, Ga.—The Farmers' Banking Co., mentioned elsewhere in this issue, has been organized with W. E. H. Searcy, president; J. H. Walker, general manager, and R. H. Johnson, cashier.

Haskell, Texas.—The First National Bank of Haskell has completed its final organization with W. H. Parion, president, and H. E. Smith, cashier.

Llano, Texas.—The First National Bank, previously reported, has been authorized to commence business.

Mossy Creek, Tenn.—A bank is being talked of.

Quanah, Texas.—W. F. Brice, of Terrell, and associates have made application to the controller of the currency for authority to organize the City National Bank of Quanah.

St. Augustine, Fla.—The American Finance Co. has been incorporated with a capital stock of \$3,000,000. L. N. Wilkie, J. R. Parrott and T. M. Day, Jr., are among the directors.

Talbotton, Ga.—The People's Bank, lately mentioned, has been organized with G. H. Estes, president, and C. W. Kimbrough, cashier.

Tredegar (P. O., Jacksonville), Ala.—Peyton Rowan is president and G. P. Ode, cashier, of the Tredegar National Bank, previously reported.

Vicksburg, Miss.—The State Alliance Exchange, it is stated, will charter the Alliance Banking & Factorage Co. with a capital stock of \$100,000.

Wheeling, W. Va.—The Life Insurance & Trust Co. has been organized by W. B. Simpson, C. B. Briscoe, A. Caldwell and others. Charter has been applied for.

Corsicana, Texas, will issue bonds for street paving and sinking an artesian well, as stated in last issue. J. F. Stout, mayor, can give particulars.

Dallas, Texas, has ordered the issuance of \$200,000 in water works bonds and \$150,000 of sewer bonds, previously mentioned.

Glasgow, Ky., will hold an election to decide upon the issuance of \$20,000 of street improvement bonds.

Henderson, Ky., will hold an election to consider the issuance of \$450,000 of bonds, lately mentioned. Charles C. Ball, mayor, can give information.

M. T. Porter, Judge of Probate, Jefferson county, Birmingham, Ala., will receive proposals until June 19 for the sale of \$50,000 5 per cent. 30 year bonds of Jefferson county.

Monroe, N. C., is considering the issuance of town improvement bonds.

The Atlanta Trust & Banking Co., Atlanta, Ga., has declared a dividend of 10 per cent.

The Bonsack Machine Co., of Lynchburg, Va., has declared its nineteenth quarterly dividend.

The Central Railroad & Banking Co. of Georgia (office, Savannah), has filed a mortgage in favor of the Central Trust Co. of New York City for \$13,000,000 to secure that amount of consolidated 5 per cent. gold-bearing bonds. Bonds are payable 1937. A portion of the bonds are to be used in retiring the tripartite mortgage of the Central of Georgia, Macon & Western and Southwestern Railroad Companies.

The Cherokee Falls Manufacturing Co., Blacksburg, S. C., has declared a dividend.

The Pratt Iron, Coal & Railway Co., Birmingham, Ala., will hold a stockholders' meeting on June 25 to consider a proposition to issue \$600,000 of first mortgage bonds.

The Winston Salem Electric Light & Power Co., Winston, N. C., has given a mortgage of \$50,000 in favor of the New York Loan & Trust Co., of New York City.

The Winston Salem Street Railway Co., Winston, N. C., has given a mortgage of \$100,000 in favor of the New York Loan & Trust Co., of New York City.

W. S. Hull, chairman city finance committee, Sheffield, Ala., will receive proposals until June 30 for the purchase of \$10,000 of street bonds.

JOHN L. WILLIAMS & SON, BANKERS,

RICHMOND, VA.

Our MANUAL OF INVESTMENTS, the largest publication of the kind published by any banking house in the United States, may be had upon application by parties interested.

NEW KODAKS.



"You press the button, we do the rest."

Seven New Styles and Sizes ALL LOADED WITH 'Transparent Films.' For Sale by all Photo. Stock Dealers.

THE EASTMAN COMPANY, ROCHESTER, N. Y. Send for Catalogue.

Southern Securities BOUGHT AND SOLD

We Buy Total Issues of City, County, Water Company and Street Railroad

BONDS

Correspondence Solicited.

N. W. Harris & Co. BANKERS,

163 & 165 Dearborn St., Chicago, 70 State St. Boston.

ALEX. BROWN & SONS

ESTABLISHED 1811.

Cor. Baltimore and Calvert Streets, BALTIMORE, MD.

—AND—

BROWN BROTHERS & CO.

New York, Philadelphia and Boston.

Foreign and Domestic Banks,

AND MEMBERS OF THE

Baltimore, New York and Philadelphia

Stock Exchanges.

(Private wire between Baltimore, Boston, Philadelphia and New York.)

Interest allowed on deposits of Banks, Bankers, Corporations and individuals (by agreement). Railroad, Municipal & other Loans Negotiated.

BUY AND SELL BILLS OF EXCHANGE

on Great Britain and Ireland, France, Germany, Holland, British West Indies and other foreign points.

Issue Commercial and Travelers' Letters of Credit.

IN STERLING, available in any part of the world; and IN DOLLARS, for use in this country, Canada, Mexico, the West Indies and South America.

Make Cable and Telegraphic Transfer of Money.

Drafts Collected in all parts of the World

BROWN, SHIPLEY & CO., LONDON.

Foreign Exchange Quotations.

ALEXANDER BROWN & SONS, BALTIMORE, June 4, 1890.

Sterling steady.—		Commercial.
60 days..... 48 1/2		48 1/2 @ 48 3/4
3 days..... 48 1/2		
France.—		Commercial.
60 days..... 517 1/2		520 @ 520 1/2
3 days..... 515 1/2		
Reichmarks.—		Commercial.
60 days..... 95 1/4		60 days..... 94 1/2
3 days..... 95 1/4		3 days..... 94 1/2
Guineas.—		Commercial.
60 days..... 40 1/2		60 days..... 39 1/2
3 days..... 40 1/2		3 days..... 40

Baltimore Stock Exchange Quotations.

Reported by ALEXANDER BROWN & SONS, Bankers, Baltimore.

BALTIMORE, June 4, 1890.

	BID.	ASKED.
Virginia 6's Consols C.....	53	54
Virginia 3-4-5 10 40's.....	43 1/2	44 1/2
Virginia 3's, new.....	68 1/2	69 1/2
Virginia Consul Coupons, N. F.....	27	28 1/2
Virginia 10-40 Coupons, N. F.....	27 1/2	28 1/2
Norfolk Water 8's, C.....	130	131
Baltimore & Ohio.....	70 1/2	71
Northern Central.....	53	55
Central Ohio.....	53	55
Pitts. & Con. 1st 7's.....	116	117
Northern Central 6's.....	115 1/2	116 1/2
Northern Central Gold 6's C 1900.....	117 1/2	118
Northern Central 5's (series A).....	110	112
Ga. Car. & N. 5's.....	103 1/2	104 1/2
Central Ohio 6's.....	101 1/2	102 1/2
Cin. Wash. & B. (En B. & O) 1st 4 1/2's.....	101	102
Ohio & M. ad.....	120	121
Atlanta & Char. 1st 7's.....	122 1/2	123
Atlanta & Char. Income 6's.....	104	105
Col. & Green. 1st 6's.....	109 1/2	110 1/2
Col. & Green. 2d 6's.....	82 1/2	84 1/2
Va. Midland, 3d 5-6's.....	108 1/2	109 1/2
Va. Midland, 5th 5-6's.....	102	103
West Va. Central 1st 6's.....	110 1/2	111 1/2
Ga. Pacific 2d.....	79 1/2	80 1/2
Cape Fear & Y. Valley 6's, A.....	104 1/2	105 1/2
Cape Fear & Y. Valley 6's, B.....	103 1/2	104 1/2
Cape Fear & Y. Valley 6's, C.....	103	104
Consol'd Gas Stock.....	53 1/2	54 1/2
Consol'd Gas Bonds 6's.....	115 1/2	116
Canton Co.....	53 1/2	55

ADDITIONAL CAPITAL SECURED

For Manufacturers and Others.

Business Properties Negotiated. Eastern and Foreign connections for large undertakings.

Correspondence solicited. Address, enclosing stamp, JNO. D. McFARLAND, Gibson House, Cincinnati, Ohio.

QUOTATIONS BIRMINGHAM STOCK EXCHANGE.

Corrected Weekly by MARTIN & LEEDY, Stock and Bond Brokers, and Members Birmingham Stock Exchange.

SATURDAY, MAY 31, 1890.

STOCKS.	Organized.	Capital.	Par.	LAST DIVIDEND.	Per Cent.	Bid.	Asked.
BANKS.		Stock.	Value.	Declared.	on Stock.		
Alabama National	1886	\$500,000	100	Jan. '90	a 4	117	120
American National	1887	250,000	100	Jan. '90	a 4	101	101
Bank of Atlanta	1889	50,000	100	Jan. '90	a 5	75	75
Berney National	1886	300,000	100	Jan. '90	a 5	128 1/2	131
Birmingham National	1887	250,000	100	Jan. '90	a 3	95 1/2	97
Central Savings	1889	50,000	100	Jan. '90	....	100	100
City National	1889	100,000	100	Jan. '90	....	180	210
First National	1884	250,000	100	Jan. '90	a 6	18 1/2	19
First National Bank of Gadsden	1887	50,000	100	Jan. '90	a 6	130	130
Jefferson County Savings	1885	150,000	100	Jan. '90	a 6	155	155
Jefferson Trust & Savings Co.	1887	500,000	100	Jan. '90	a 3	106 1/2	111
Mutual Loan & Trust Co.	1888	50,000	100	Jan. '90	1 15 E	100	103
People's Savings Bank & Trust Co.	1888	50,000	100	Jan. '90	a 4	109 1/2	113
RAILROADS.							
Birmingham Union Railway Co.	1887	1,000,000	50	....	....	30	30
Birmingham & Ensley Railway Co.	1887	500,000	50	....	....	25	25
North Birmingham Street R. R.	1887	65,000	50	....	....	50	50
Highland Avenue & Belt R. R. Co.	1887	1,000,000	100	....	....	45	45
South & North Alabama R. R. Co.	1887	....	....	....	....	23	23
MISCELLANEOUS.							
Anniston City Land Co.	1887	3,000,000	100	July, '87	q 4	60	61
Alabama Coal & Iron Co.	1890	1,000,000	100	....	....	119	119
Alabama-Cannelville Coal & Coke Co.	1886	500,000	100	....	....	23	23
Alabama Rolling Mill Co.	1887	250,000	100	....	....	60	60
Bessemer Land Co.	1887	2,500,000	100	May, '87	q 2 1/2	34 1/2	35 1/2
Birmingham Mining & Mfg. Co.	1887	150,000	100	Mch. '87	q 3 1/2	103	103
Birmingham-Ensley Land Co.	1886	450,000	100	....	....	6	6
Birmingham Water Works Co.	1887	500,000	100	....	....	80	80
Birmingham Furnace & Mfg. Co.	1886	1,500,000	100	....	....	16	16
Chattanooga Coal & Iron Co.	1886	1,400,000	100	....	....	70	70
Chattanooga East End Land Co.	1887	4,000,000	100	....	....	15	25
D-Bardeleben Coal & Iron Co.	1887	4,000,000	100	....	....	79	79
Decatur Land Imp. & Furnace Co.	1887	5,000,000	100	....	....	14	14
Decatur Mineral Land Co.	1887	350,000	100	Oct., '87	q 3	23 1/2	23 1/2
Elyton Land Co.	1871	200,000	100	Nov. 10, '87	q 3	850	850
Edison Electric & Illuminating Co.	1886	100,000	100	July, '89	a 4	102	102
East Birmingham Land & K. K. Co.	1886	1,020,800	100	....	....	10	10 1/2
East Lake Land Co.	1886	200,000	100	June, '87	q 50	11	11
Enterprise Manufacturing Co.	1886	100,000	100	....	....	22 1/2	22 1/2
Eureka (Furnace) Co.	1886	100,000	100	....	....	130	130
Florence Land & Mining Co.	1887	3,000,000	100	April, '89	q 1	20	22
Gadsden Land Co.	1887	3,000,000	100	April, '87	q 1	6 1/2	6 1/2
Gate City Land Co.	1887	....	100	....	....	30	30
Hecla Coal Co.	1888	300,000	100	....	....	87 1/2	95
Herscov Steel & Mfg. Co.	1887	100,000	100	....	....	95	95
Jefferson Building & Improvement Co.	1887	150,000	100	....	....	9 1/2	10 1/2
Jagger-Townley Coal & Coke Co.	1887	350,000	100	....	....	52	62
Leeds Land Co.	1887	150,000	100	....	....	100	100
Mag Ellen Coal & Mining Co.	1887	100,000	100	....	....	20	20
Mary Lee Coal & Railway Co.	1888	500,000	100	....	....	37 1/2	43 1/2
North Birmingham Land Co.	1886	700,000	100	....	....	1 1/2	1 1/2
Smithfield Land Co.	1886	850,000	100	....	....	50	50
Sloss Iron & Steel Co.	1887	4,000,000	100	....	....	17	19
South Anniston Land Co.	1887	750,000	100	Sept. 2, '89	h 1	58 1/2	61 1/2
Sheffield Coal & Iron Co.	1883	1,000,000	100	Mch. '87	x 5	100	100
Thompson Brick Co.	1887	20,000	100	Feb. 83	....	55	55
Tennessee Coal & Iron Co.	1887	9,000,000	100	May 15, '87	....	104	106
Tennessee Coal & Iron Co., pref.	1887	1,000,000	100	....	....	24	27
Tuscaloosa Coal, Iron & Land Co.	1887	1,000,000	100	....	....	30	30
Valcan Coal & Coke Co.	1886	100,000	100	....	....	75	75
West End Land Co.	1886	175,000	100	....	....	40	43
Woodstock Iron Co.	1887	3,000,000	100	....	....	....	....

BONDS.	Amount.	INTEREST.	Rate Per Cent.	Bid.	Asked.
Alice Furnace	300,000	7	103	....	....
Birmingham Gas & Electric Light Co.	340,000	7	92	....	....
Birmingham Union Railway Co.	500,000	6	92 1/2	100 1/2	100 1/2
Birmingham Water Works	400,000	6	107 1/2	....	....
Cabala C. & M. Co., 1st Mortgage	750,000	7	111	116	116
Caldwell Hotel	150,000	7	98 1/2	99 1/2	99 1/2
Elyton Land Co., Trust Bonds	2,400,000	6	98 1/2	99 1/2	99 1/2
Eureka (Furnace) Co.	400,000	7	109 1/2	....	....
Henderson Steel & Mfg. Co.	50,000	7	80	85	85
Mary Pratt Furnace	100,000	7	106	....	....
Sloss Iron & Steel Co., 1st Mortgage	2,000,000	6	93	93 1/2	93 1/2
Williamson Iron Co.	60,000	6	100	105	105
Tennessee Coal, Iron & R. R. Co.,					
Tennessee Division	1,254,000	6	96 1/2	....	....
Birmingham Division	3,640,000	6	100	....	....

EXPLANATION.—a—For six months. q—Only dividend declared since organization. x—This company declared 5 per cent. February 1 also. z—Total dividends paid, 49 per cent. 1—Dividend for one year, ending July 1, 1889. E—Sold hereafter Ex 15 per cent. dividend. o—Dividend 3 per cent. paid in May, '87, also October 1. n—Fifty per cent. Dividend on Union R. R. Stock. h—Payable October 15, 1889. f—A 5 per cent. Dividend has been paid quarterly since organization. w—For dividends refer to the company. * * * May 6, '87, 50 per cent. cash; May 10, '87, 50 per cent. cash; Sept. 14, '87, 50 per cent. cash; Oct. 10, '87, 10 per cent. cash; Oct. 10, '87, 10 per cent. cash; Nov. 10, '87, 10 per cent. cash; Nov. 10, '87, 100 per cent. in Elyton Land Company's Trust Bonds.

C. J. BEATTIE,
LAWYER,

204 Dearborn Street, Chicago, Ill.

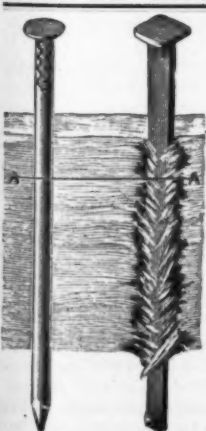
Thirty-three years' successful practice in the State and Federal Courts. Cases conducted quietly without gossip or scandal. Counsel free.

DESKS,
Chairs,
Office FurnitureSEND FOR CATALOGUE.
DERBY & KILMER DESK CO.
Salesrooms,
opp. Lowell Depot,
93 Causeway St., Boston.

Castle Automatic Absorption Ice Machine.

Uses but 210 degrees of heat in the retort, saving all the water for cooling the gas and the weak liquor from 320 degrees down to 210 degrees, and uses none for the absorber. Small machines are complete on heavy-cast foundation plate. Automatic in operation. Warranted High-Class and Positive. Hotels, creameries, &c., can make their own ice or refrigerate without additional help. Sizes 500 pounds to 10 tons per 24 hours.

CASTLE ENGINE WORKS, Indianapolis, Ind.

The SALEM WIRE NAIL CO.
MANUFACTURERS

Wire Nails

Works: SALEM, O.; FINDLAY, O.

General Office: SALEM, OHIO.

BRANCH OFFICES:

261 Broadway, New York. 209 Phenix Bldg., Chicago.
123 Souard Street, St. Louis. 4 Wiggins Block, Cincinnati.

P. J. GOODHART & CO.

(Members of the New York Stock Exchange.)

24 BROAD STREET, NEW YORK.

Orders executed in New York and Boston for buying and selling stock of the

Anniston City Land Co.

We are prepared to carry same on \$10 per share MARGIN.

We make a specialty of all

Southern Securities.

FREDERIC TAYLOR & CO.

Bankers and Brokers,

84 BROADWAY,
NEW YORK CITY.

Members of the New York Stock Exchange.

WILSON, COLSTON & CO. [Members of Baltimore Stock Exchange.]

BANKERS.

216 East Baltimore Street, Baltimore, Md.

Investment and Miscellaneous Securities a specialty, and large lines handled. Exceptional facilities for dealings in all classes of Southern Bonds. Loans on Collateral Securities negotiated. Quotations and information furnished on application, and correspondence invited.

J. WM. MIDDENDORF.

Members Baltimore Stock Exchange.

WM. B. OLIVER.

MIDDENDORF, OLIVER & CO.

BANKERS AND BROKERS,

No. 213 E. German Street, [REVERE BUILDING.] Baltimore, Md.

Stocks and Bonds Bought and Sold on Commission. Special attention given to Municipal and other Investment Loans. Dealers in Foreign Exchange. Drafts on Europe and Letters of Credit furnished.

Southern Railway Construction Co.

CAPITAL \$500,000.

Organized for the special purpose of negotiating Southern Railway Bonds and General Securities, and the building of Railroads, Water Plants and other Public Works. OFFICES: New York, 57 Broadway; Chattanooga, Tenn., Richardson Building; Louisville, Ky., 327 Fifth Street.

GENERAL OFFICE, CHATTANOOGA, TENN.
Gov. John B. Gordon, Georgia, President; Chas. O. Beede, Lynn, Mass., 3d Vice-President; Chas. A. Brooks, New York, 1st Vice-President; Roland C. Cook, Chattanooga, Tenn., Secretary and Treasurer; Chas. E. Danforth, New York, General Manager.

MONEY FOR MANUFACTURERS.

Any manufacturer desiring to change the location of his plant or establish a new one, will be given a fine site with unsurpassed advantages, and also advanced a liberal amount of cash, subject only to a satisfactory examination. This offer is bona fide, and only principals will be dealt with. Address

WEST LYNCHBURG LAND CO., Lynchburg, Va.

THE
Waring Mfg. Co.

ROOM NO. 22,

Farmers and Merchants' Bank Building,
South and Lombard Streets, BALTIMORE, MD.

Factory and Chemical Works at Locust Point.

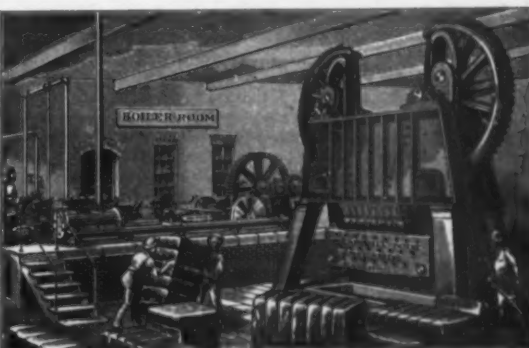
Having one of the largest, best equipped and best located Fertilizer establishments in Baltimore or elsewhere, we make a specialty of supplying Manipulators and Large Dealers with Fertilizers made according to formulas furnished us.

HEADQUARTERS FOR SOUTHERN TRADE FOR 66° SULPHURIC ACID.

Purity, Color and Full Strength Guaranteed. Favorable Freight Rates to All Points.

THE CAMPBELL COTTON COMPRESS

Is sold on the following GUARANTEE:

DENSITY Obtained
Equal to Any.COST of Plant Less
Than Any.EXPENSE of Running
Half of Any

First-Class Compress.

Correspondence Solicited.

The Campbell Cotton
Compress Co.

109, 111, 113 & 115 E. Front St.

CINCINNATI, O.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Anniston—Iron Furnaces.—The bonds mentioned in last issue as to be issued by the Woodstock Iron Co. are to furnish working capital for the company's four iron furnaces and other purposes.

Anniston—Rolling Mill.—The Anniston Rolling Mills Co., previously reported, has let contract to Black & Co. for the construction of its rolling mill.

Ball Play—Saw Mill.—P. Wagnon, lately mentioned as erecting a saw mill, will erect another.*

Bessemer—Mineral Wool Factory.—A Chicago (Ill.) company is reported as having established a mineral wool factory in Bessemer, with J. W. Buckley, manager.

Birmingham—Brick-yard.—C. W. Gassett, John O'Neill and J. W. O'Neill have incorporated the Builders' Brick Co. to manufacture brick. The capital stock is \$20,000.

Birmingham—Electric-light Plant.—The Vanderbilt Steel & Iron Co. has let contract for the electric-light plant mentioned in last issue.

Bluffton—Cotton Mill.—The Bluffton Land, Ore & Furnace Co. is negotiating for the erection of a \$100,000 cotton mill.

Bluffton—Car-wheel Works.—A \$50,000 stock company has been organized with C. B. Parker, general manager, to build car-wheel works. The capacity is to be 200 wheels per day.

Cullman—Electric-light Plant.—The city has received a proposition for the erection of an electric-light plant. The mayor can give particulars.

Fort Payne—Switch Works.—The Cam-Lock Switch Manufacturing Co. is being organized to establish works in Fort Payne for the manufacture of the cam-lock switch. H. A. Hancock, 12 Pearl street, Boston, Mass., can give information.

Fort Payne—Implement Factory.—It is reported that an agricultural implement factory will be established. The Fort Payne Coal & Iron Co. can give information.

Gurley—Iron Furnace.—The British & American Land, Mining & Railway Co., represented by W. E. Dabney, of Stevenson, will build a 100-ton iron furnace.*

Huntsville—Cotton Mill.—It is stated that arrangements have been made for the removal to Huntsville of the machinery from a large cotton mill at Philadelphia, Pa., to be placed in the mill recently reported as probably to be built in Highland Park. W. F. Vandiver can give particulars.

Pell City—Iron Works.—It is stated that the Pell City Iron & Land Co. has closed contract for the establishment of iron works.

Prattville—Gin Factory.—The Daniel Pratt Gin Co. will enlarge its factory.

Riverton (P. O. Chickasaw)—Electric-light Plant.—The electric-light plant mentioned in last issue is being erected by the Riverton Land Co.

Riverton (P. O. Chickasaw)—Land, Manufactures, &c.—The Riverton Land Co., recently reported as organized, has been incorporated at Roanoke, Va., with Alfred Parrish, of Philadelphia, Pa., as president, and T. L. Carter, of Sheffield, secretary, to deal in land and operate mines and manufactories. The capital stock is \$300,000.

Riverton (P. O. Chickasaw)—Oil Well.—It is stated that the North Alabama Development Co. has contracted for the sinking of an oil well.

Sheffield—Carriage Factory.—A Larock, of Florence, will, it is reported, erect a carriage factory in Sheffield.

Sheffield.—The Sheffield & Birmingham Coal, Iron & Railway Co. is to be reorganized by Napoleon Hill, of Memphis, Tenn., and others, who purchased the property of that company, as recently reported.

Shelby.—The Alabama Feed Water Purifier Co. has been incorporated with a capital stock of \$100,000.

Stevenson—Corn Mill and Gin.—W. E. Brown & Son, of Sulphur Springs, lately reported as to erect a flour mill, will, it is stated, also erect a corn mill and cotton gin.

Stevenson—Furniture Factory.—Frederick Winger, of Winchester, Tenn., will, it is stated, erect a furniture factory in Stevenson.

Stevenson—Car Works.—Lalor Sherrey will organize a company in New York to build the steel car works mentioned in last issue.*

Stevenson—Iron Furnaces, Rolling Mill, etc.—The British & American Land, Mining & Railway Co. contracted to build the two iron furnaces and rolling mill lately mentioned. W. E. Dabney, agent of the company, writes that it will build two 100-ton furnaces, one to be located in Stevenson and the other at Gurley. The company controls 100,000 acres of mineral and timber land west of Stevenson, and is reported as to also erect pipe works.*

Talladega—Sewerage System.—M. J. Bannon, of Louisville, Ky., has received contract for the seven miles of pipe sewers, from 6 to 18 inches in diameter, recently mentioned, at \$25,425.

Tredegar (P. O. Jacksonville)—Canning Factory.—The erection of a canning factory is projected. G. B. West can give information.

Tredegar (P. O. Jacksonville)—Brick-yard.—A \$10,000 stock company has been organized to establish the brick-yard lately mentioned. G. B. West can give particulars.*

ARKANSAS.

Argenta—Lumber Mill.—The Elite Lumber Co., of Chicago, Ill., will, it is stated, erect a \$50,000 lumber mill in Argenta.

Brinkley—Paper Mill.—The American Stock Food & Fibre Co. of St. Louis, Mo., is reported as erecting machinery to experiment in the manufacture of paper from cotton-seed hulls.

Buckville—Shingle Factory.—J. W. Martin, mentioned in last issue, has purchased a shingle machine.

Hot Springs—Reduction Works.—The Milwaukee Mining Co. has been organized with C. D. Stanhope, of Milwaukee, Mich., as president; E. A. Shippey, vice-president, and G. W. Watson, secretary, to erect reduction works.

Little Rock—Electric-light Plant.—It is stated that G. H. Van Etten, representing a Canadian syndicate, has purchased the plant of the Edison Electric Light Co. for \$65,000, and will make extensive improvements.

Little Rock—Broom Factory.—It is stated that E. W. Stafford, of Urbana, O., lately mentioned, has secured site and will soon commence the erection of his broom factory.

Little Rock—Paving.—Contract for the grading and paving of West Third street has been let to the Little Rock Granite Co. at \$7,114.59.

Sherill—Dry-kiln.—The Cypress Lumber Co. is erecting the dry-kiln lately mentioned as to be probably put in by Boyington Bros.

Stuttgart.—The Bear State Lumber Co. has amended its charter, increasing capital stock to \$100,000.

FLORIDA.

Apalachicola—Artesian Well, etc.—An effort is being made to organize a stock company to sink an artesian well and establish a system of water works.

Apalachicola—Electric-light Plant.—The erection of an electric-light plant is projected.

Bagdad—Shingle Mill.—Carey & Olinger, referred to in last issue, are erecting a shingle mill with capacity for about 40 M feet per day. All machinery has been purchased.

Bartow—Phosphate Mines.—The company recently mentioned as organized by Bishop Bros., of Eustis, and others to establish a fertilizer factory, has been incorporated as the American Mining & Improvement Co., with E. W. Codrington, president; J. E. Ingraham, vice-president; N. C. Bishop, treasurer and secretary, to develop phosphate mines. The capital stock is to be \$1,200,000.

Eustis—Irrigating Plant.—Frith Bros. have erected an irrigating plant on their property costing \$15,000.

Florida—Phosphate Lands.—It is reported that a stock company is being organized at Atlanta, Ga., to purchase and develop phosphate lands in Florida. W. J. Willingham, of that city, can give information.

Green Cove Springs—Water Works.—Lorenzo Taylor is reported as about to establish water works in Green Cove Springs.

Huntington—Canning Factory.—J. A. Henderson intends starting a canning factory.*

Jasper—Saw Mill.—The Muskegon Lumber Co., composed of R. F. Martindale and P. W. Beach, of Muskegon, Mich.; E. E. Ewing and D. Kaylor, of Chattanooga, Tenn., and P. C. Burns, of Chicago, Ill., has purchased the saw mill of M. L. Smith, and will put in additional machinery; also erect dry-kilns.

Kissimmee—Sugar Mill.—The establishment of a sugar mill is contemplated.

Lakeside—Water Works.—James Bristow & Son will put in a system of water works, it is reported.

Limona—Saw Mill.—B. E. Coe is erecting the saw mill lately reported.

Middleburg—Grist and Rice Mill.—J. S. de Montmolin, lately mentioned, is erecting a grist and rice mill.

Ocala.—The Zeigler Phosphate Co., recently mentioned, has increased its authorized capital stock from \$25,000 to \$200,000.

Ocala—Phosphate Land.—Mrs. M. E. Hoopes has purchased, it is reported, 160 acres of phosphate land from G. B. Tyler for \$32,000.

Ocala—Water Works.—The city council has decided, it is reported, to purchase the Ocala Water Works.

Panasoffkee—Shingle Mill.—The Wekiva Shingle Co., of Glen Ethel, will move to Panasoffkee, and erect a plant with capacity for 250,000 shingles per day and employing about 200 men.*

Silver Springs Park—Canning Factory.—The Silver Springs Park Manufacturing Co., lately reported, will erect a canning factory.

St. Augustine—Furniture Factory.—G. T. Bunting will put in a steam-power plant, it is reported, and add the manufacture of furniture to his establishment.

Tallahassee—Planing Mill.—R. Cay is reported as putting new machinery in his planing mill and novelty works.

Tallahassee—Barrel Factory.—Machinery has been ordered, it is reported, for a barrel factory. This is possibly the one lately mentioned as to be erected by G. E. White.

Tampa—Electric-light Plant.—The contract to furnish 2,000 incandescent lights, mentioned in last issue, for Tampa Bay Hotel, has been let to C. Z. Suthern, of New York city.

Waldo—Saw Mill.—G. H. Barker is reported as rebuilding his saw mill recently burned.

GEORGIA.

Albany Water Works.—Nelson Tift has made a proposition to furnish the city with a site for the water works, bore an artesian well and erect a 100-foot tower with tank, engine and pump at a cost of about \$20,000. The offer is said to have been accepted.

Americus—Medicine Factory.—W. F. Davenport, D. F. Davenport, J. E. Clark and others have incorporated the Davenport Drug Co. to manufacture proprietary medicines, etc. The capital stock is \$25,000.

Americus—Cotton Compress.—The Americus Compress Co. will, it is reported, erect a new cotton compress.

Americus.—The Americus Manufacturing & Improvement Co. will increase its capital stock to \$1,000,000 if it secures control of all the unimproved real estate in and about Americus. The purpose of the increase is to secure the establishment of new industries, including \$250,000 car works, opening of new streets, extension of gas and water mains, and a general improvement of the city.

Americus—Buggy and Wagon Factory.—The Oliver Buggy & Wagon Co., recently mentioned, has secured site and will soon commence the erection of its buggy and wagon factory.

Americus—Shoe Factory.—Harper Black, of Plains of Dura, is reported as organizing a stock company to erect a shoe factory in Americus.

Athens—Electric-light Plant.—The Athens Electric Light Co. will probably enlarge its electric-light plant.

Atlanta—Land.—Aaron Haas, W. A. Hemphill, J. L. Logan, Jr., and others have incorporated the Atlanta Suburban Land Co. to deal in land, etc. The capital stock is \$250,000.

Atlanta—Glass Works.—The Atlanta Glass Co. will enlarge its works, as reported in last issue.

Augusta—Furniture Factory.—It is proposed to erect another furniture factory. S. L. Osborne can give particulars.

Bainbridge—Knitting Mill and Broom Factory.—G. S. Rorke & Co., of North Stonington, Conn., will, it is stated, remove their knitting mill and broom factory to Bainbridge.

Boston—Oil Mill and Fertilizer Factory.—It is stated that the Farmers' Alliance has decided to

erect the cotton-seed oil mill and fertilizer factory recently mentioned.

Brunswick—Canning Factory, &c.—H. J. Lewis, J. M. Madden, C. P. Goodyear and others have incorporated the Oyster Cultivation & Canning Co. to cultivate oysters and establish a canning factory. The capital stock is \$50,000.

Columbus.—The Columbus Investment Co., mentioned in last issue as to increase capital stock, will advance same to \$300,000.

Covington—Cotton and Woolen Mill.—The Porterdale Mills has been incorporated by O. S. Porter, J. F. Hanson, Joseph Duckworth and others, purchased the cotton and woolen mill of O. S. Porter at Cedar Shoals, and will operate same. The capital stock is \$75,000.

Douglasville—Cotton Mill, &c.—The Douglasville Co. operative Cotton Manufacturing Co., previously reported, has secured site for its cotton mill, and will, it is stated, develop a rock quarry.

Eatonton—Canning Factory.—A canning factory will, it is reported, be erected.

Felton—Lumber Mill and Timber Lands.—It is stated that the Standard Lumber & Manufacturing Co. has been organized, purchased the lumber plant of the Fenn-Hollett Manufacturing Co., and will put in new machinery; also purchased timber lands and will develop.

Gainesville—Shoe Factory.—The Hynds Manufacturing Co. is reported as to increase capacity of its shoe factory.

Griffin—Oil Mill, &c.—The property of the Farmers' Co. operative Manufacturing Co., including a 30-ton cotton-seed oil mill, fertilizer factory, cotton gin, real estate in Griffin and phosphate lands in Florida, has been purchased by the Farmers' Banking Co., referred to elsewhere in this issue. The latter company will erect the acid chamber and woodworking machinery previously mentioned.

Griffin—Broom Factory.—Lyon & Bishop have, it is reported, purchased the Griffin broom factory and will operate.

Harmony Grove—Oil Mill.—The Farmers' Alliance of Banks, Franklin, Madison and Jackson counties will, it is reported, erect a \$30,000 cotton-seed oil mill.

Hawkinsville—Fertilizer Factory.—The Farmers' Alliance of Pulaski and Dodge counties will, it is reported, erect a fertilizer factory.

Hillman—Bottling Works.—It is reported that an Augusta company has purchased a mineral spring near Hillman, will bottle the water and place same on the market.

Jefferson—Oil Mill.—The Farmers' Alliance of Jackson county is reported as to erect a \$15,000 cotton-seed oil mill.

Leesburg—Ice Factory.—It is stated that another ice factory will be erected. E. Johnson can give information.

Marietta—Shoe Factory.—It is probable that a shoe factory will be erected.

McDonough—Water Works.—It is reported that water works will be constructed.

Milledgeville—Brick Works.—J. W. McMillan intends enlarging his brick works to add the manufacture of fire-bricks.

Poulan—Lumber Mill, &c.—Hunter & Co., of Detroit, Mich., are reported as having purchased the lumber mill and timber lands of the Kaufman Lumber Co. for about \$40,000.

Rome—Land.—The South Side Land Co., recently reported as organized, has been incorporated by J. P. Crow, J. L. Caldwell, J. H. Allen and others to deal in land. The capital stock is \$30,000.

Savannah—Brewery.—The Savannah Brewing Co. will erect an engine and boiler-house, a two-story tank-room, enlarge the bottling house and put in new machinery.

Thomaston—Fertilizer Factory and Oil Mill.—A fertilizer factory and cotton-seed oil mill will, it is reported, be erected.

Toccoa—Canning Factory.—J. W. McLauri will, it is reported, erect a canning factory.

KENTUCKY.

Bowling Green—Brick Works.—The Bowling Green Brick & Tile Manufacturing Co. established the brick works previously mentioned.

Bowling Green—Flour Mill.—Wilford Bros. & Co. have let contract for remodeling their flour mill, increasing capacity from 150 to 200 barrels per day.

Carrollton—Electric-light Plant.—The Carrollton Furniture Manufacturing Co. has put in an electric light plant.

Cloverport—Brick-yard.—The Cloverport Pipe Line Co., mentioned in last issue, contemplates erecting brick machinery.

Germantown—Turnpike.—The Germantown & Lowell Turnpike Co. has been incorporated.

Hodgensville—Brick-yard.—Thomas Smith, of Louisville, is reported as to start a brick-yard.

Glasgow—Street Improvements.—The city will hold an election to decide upon the issuance of \$20,000 of bonds for street improvements.

Middlesborough Canal.—It is stated that contract has been let at \$100,000 for the widening, deepening and walling up of Yellow creek, mentioned in last issue.

Newport—Publishing.—J. T. Gaines, R. D. Allen and E. W. Weaver have incorporated the Teachers' Co-operative Publishing Co. to publish a monthly magazine.

Newport—Saw Works.—W. H. Forbes, J. S. May, Philip Engelskirger and others have incorporated the National Saw Co. to manufacture saws. The capital stock is \$3,000,000.

Newport—Brewery.—The George Wiedemann Brewing Co., mentioned in last issue, has a brewery in operation and recently put in an ice machine.

Richmond—Electric-light, Gas and Water Works.—The electric-light, gas and water works referred to in last issue will be operated by the Richmond Light & Water Co.

Winchester—Oil and Gas Lands.—The Winchester Oil & Gas Co., recently incorporated, purchased oil and gas lands and will develop.

LOUISIANA.

Avoyelles Parish—Timber Land.—The Williams Lumber Co. has purchased 5,000 acres of cypress lands from W. H. Howcott, of New Orleans.

Basitrop—Cotton Compress.—The organization of a company to build a cotton compress is proposed. S. T. Baird can probably give information.

Bienville Parish—Timber Land.—Mrs. M. Edith Howcott, of New Orleans, has purchased 5,000 acres of hardwood and cypress timber lands in Bienville and Jackson parishes, 1,000 acres in Panola county, Texas, and 1,500 acres of cypress brake in St. John Baptiste parish.

Hammond—Rice Mill, Sugar Mill, etc.—The erection of a cotton gin, rice mill and sugar mill is proposed.

Iberville Parish—Timber Land.—William Cameron & Co., of Waco, Texas, have purchased from the Rosedale Lumber Co. 4,000 acres cypress for \$40,000.

Jackson Parish—Timber Land.—Thomas H. Bowles, of New York city, has purchased 2,000 acres of timber land from W. H. Howcott, of New Orleans.

Natchitoches—Canning Factory.—J. E. Bereda contemplates erecting a canning factory.

New Orleans—Manufacturing.—The New Orleans Household Supply Co. (Limited) has been incorporated with the privilege of manufacturing. The capital stock is \$6,000.

Plaquemine—Shingle Mill.—The Plaquemine Lumber & Improvement Co. will rebuild, on a larger scale, its Morning Glory Shingle Mill, lately reported as burned.

Shreveport—Plow Factory.—The Herve Plow Co. (Limited), lately mentioned, has purchased site for its factory.

MARYLAND.

Baltimore—Canal.—French capitalists have secured a controlling interest in the Maryland & Delaware Ship Canal Co., and will, it is said, commence work on the project at an early date. The canal is to connect the Chesapeake and Delaware bays. W. J. Roe, of 35 Broadway, New York city, is the representative of the syndicate.

Baltimore—Elevators.—The Northern Central Railway Co. has let the contract for rebuilding its elevator at Canton, previously mentioned as burned; also for the erection of an elevator near Calvert station, to J. F. Moulton, of Chicago, Ill.

Baltimore—The Merchants' Shot Tower Co. will hold a meeting June 11, 1890, to consider a plan for disposing of its property.

Hagerstown—Glass Factory.—The Hagerstown Mining, Manufacturing & Land Improvement Co. is reported as about completing arrangements with the Pendleton Window Glass Co., of Hamilton, Ind., for the location of its factory in Hagerstown.

Lonaconing—Electric light Plant.—The American Coal Co. contemplates putting an electric-light plant at its mines. J. H. Parrott can give information.

Washington, D. C.—Real Estate.—W. E. Brown, John Mitchell, F. McC. Criswell and others have incorporated the Merchants & Mechanics' Real Estate Investment Co.

MISSISSIPPI.

Grenada—Saw Mill, etc.—A stock company will probably be organized to erect a saw mill and spoke and hub factory. J. W. Griffin can give information.

Marion County—Timber Land.—J. J. White, of Pike county, has purchased 3,000 acres of timber land from W. H. Howcott, of New Orleans, La.

NORTH CAROLINA.

Asheville—Canning Factory.—The Farmers' Alliance will establish, it is reported, a canning factory near Biltmore.

Asheville—Brick-yard, etc.—A brick plant with a capacity of 25 M brick daily has been established, also a rock quarry opened, upon the Vanderbilt estate near Asheville.

Asheville—Land.—It is reported that George Vanderbilt, J. H. Inman, of New York city, and others have purchased land, including the property of J. G. Martin, H. C. Hunt, Mrs. S. E. Buchanan and W. W. McDowell, the last named being sold for \$25,000.

Asheville—Land.—The Riverside Park has been sold, it is reported, for \$30,000.

Burlington—Cotton Mill.—The Elmira Cotton Mills have put in, it is stated, a spinning frame and 208 spindles.

Bryum—Cotton Mill.—The Chatham Cotton Mills, it is reported, has put new lappers, spoolers, etc., in its mill and will add spinning machinery.

Cabarrus County—Gold Mine.—It is reported that new milling machinery will be placed at the Reid gold mine.

Cabarrus County.—Northern parties have purchased, it is reported, the two Leshour mines and will develop.

Charlotte—Gold Mine.—T. J. McCord and James Axon are reported as developing a gold mine near Siford's Ferry.

Durham—Electric-light Plant.—An electric-light plant will be put in Trinity College, referred to elsewhere in this issue.

Elizabeth City—Saw Mill.—G. B. & T. W. Jones will put two more boilers, an engine and steam feed in their saw mill, mentioned in last issue; also erect three additional dry-kilns.

Flat Creek—Iron Mine.—Natt Atkinson & Son, of Asheville, lately mentioned, have optioned 5,000 acres of iron ore land and are opening up a mine.

Franklinville—Saw Mill.—J. W. Tippet & Henson will erect a saw mill, as stated in last issue.

Goldsboro—Knitting Mill.—W. T. Velverton and others will operate the knitting mill mentioned in last issue. A site for building has been purchased and work will soon commence.

Granite Falls—Sash, Door and Blind Factory.—The Russell Manufacturing Co. has erected, it is reported, a sash, door and blind factory.

Greensboro—Land, etc.—The Union Land Co. has been organized with J. Van Lindley, president; G. S. Sergeant, vice-president; W. R. Burgess, secretary and treasurer, to deal in real estate and do a general mining and manufacturing business, the minimum capital stock to be \$25,000; maximum \$500,000.

La Grange—Canning Factory.—D. M. Stanton contemplates erecting a canning factory.

La Grange—Cotton Factory.—Nearly all the capital stock has been subscribed to build the cotton factory previously mentioned. D. M. Stanton can give particulars.

Lumberton—Distillery.—J. E. Carlyle has rebuilt his distillery recently reported as burned.

Madison—Saw Mill.—J. H. Sink and Lucian Hine will locate, it is reported, a saw mill near Madison.

McDowell County—Iron Mines and Quarry.—The North Carolina Bessemer Co. has been organized with J. S. Carr, of Durham, president; Q. H. Blocker, Maxton, vice president; A. H. Slocumb, Fayetteville, secretary; S. H. Wiley, Salisbury, treasurer, to develop Bessemer ores and marble at Carrstown. It has purchased 4,000 acres of land and optioned 2,000 more. The capital stock is \$200,000.

Monroe—Improvements.—The issuance of bonds for town improvements is contemplated.

Monroe—Saw Mill.—Hart, Greene & Co., operating a saw mill, have added planing and matching machinery.

Morganton—Woodworking Factory.—The woodworking factory of Robertson & Lewis, referred to in last issue, was purchased by the Morgan Manufacturing Co., which contemplates the gradual extension of the plant.

Mt. Gilead—Gold Mine.—G. W. McAuley expects to develop a gold mine.

Murfreesboro—Hoop and Shingle Factory.—E. C. Worrell contemplates establishing a hoop and shingle factory.

New Berne—Saw and Planing Mill.—C. J. Schelky will erect a saw and planing mill, as reported in last issue.

Oxford—Prizery.—Adams & Scott have let contract, it is reported, for a prize tobacco factory to be four stories, 40x120 feet.

Raleigh—Paper Mill.—Brewer & Holding, proprietors of the Askew Paper Mills, of Falls of Neuse, are reported as about to add wood pulp machinery to their mill.

Raleigh—Tobacco Factory.—The Farmers' Alliance and Knights of Labor will erect and operate, it is reported, a smoking tobacco factory in Raleigh.

Rowan County—Gold Mine.—It is reported that Northern parties have purchased the Honnycut mine and will develop.

Salem—Granite Quarry.—C. A. McGalliard, who has contract for furnishing paving stones for the

streets of Salem, purchased the granite quarry near the Dan river, as lately stated, and is developing.

Salem—Hosiery Mill.—The Salem Hosiery Mill will add, it is reported, new knitting machinery to its mill.

Salisbury—Land.—The Salisbury Land & Improvement Co. has been organized by R. J. Holmes, Kerr Craigie, F. B. Arendell and others. The capital stock is \$200,000.

Salisbury—Fertilizer Factory.—The Farmers' Alliance is considering the location of a fertilizer factory near Salisbury. J. F. Stansill can give information.

Salisbury—Brick-yard.—J. D. Small has started a brick-yard.

Siler City—Cotton Factory.—The erection of a cotton factory is agitated.

Trenton—Canning Factory.—T. J. Whitaker and others contemplate establishing a canning factory upon the co-operative plan.

Warsaw—Canning Factory.—An effort is being made to organize a stock company to establish a canning factory.

Williamston—Furniture Factory.—J. C. Williams is organizing a stock company to erect the furniture factory mentioned in last issue.

Wilmington—Saw Mill, etc.—DeLancy Evans has erected the saw mill referred to in last issue, and will probably add shingle machinery and dry-kilns.

SOUTH CAROLINA.

Abbeville—Sash, Door and Blind Factory.—The stock company mentioned in last issue as to establish a sash, door and blind factory is to be organized by R. E. Hill and others.

Anderson—Laundry.—R. A. Mayfield, mentioned in last issue, will establish a steam laundry.

Camden—Oil Mill, etc.—The Wateree Cottonseed Oil Mill has been incorporated by Samuel Boykin, W. F. Russell, C. M. Alexander and others to establish a cottonseed oil mill, ginny and grist mill. The capital stock is \$25,000.

Charleston—Publishing.—Theodor Wenzel, W. H. Welch, J. Keppeler and others have organized the Charleston Publishing Co., to publish "The Charleston Herald." The capital stock will be \$12,000.

Cheraw—Grist Mill.—The Cheraw Iron Works has erected a grist mill.

Dillon—Brick-yard.—It is proposed to organize a stock company to establish a brick-yard. J. H. David & Bro. can give information.

Gaffney City—Land.—The 7,000 acres of land purchased by the Gaffney City Land & Improvement Co., mentioned in last issue, is agricultural and not mineral land as reported.

Georgetown—Ice Factory.—An ice factory will, it is reported, be erected to cost \$10,000.

Glendale—Cotton Mill.—The Glendale Mills, it is reported, will erect an addition to treble its capacity, also add 10,000 spindles.

Graniteville—Kaolin Mines.—J. B. McMillen, C. E. Sawyer, J. A. Stothart and others have organized a company to develop a kaolin mine adjoining the Hankinson property.

Graniteville—Kaolin Mines.—L. H. Hankinson is reported as developing kaolin mines near Graniteville.

Laurens County—Cotton Mill.—E. M. Caine, J. T. Johnson, of Laurens; Albert Dial, of Greenville, and others have had a survey made of the Ware's Shoals water-power, lately referred to, with a view of developing. The estimate shows 10,000 horse-power. A large cotton mill is reported as to be erected at the shoals.

Orangeburg—Oil Mill.—The Orangeburg Oil Mill Co., reported in last issue as incorporated, will erect a cottonseed oil mill of about 30 tons daily capacity and a cotton ginny.

Orangeburg—Laundry.—B. H. Moss is interested in proposed steam laundry referred to in last issue.

Pendleton—Canning Factory.—The officers of the Pendleton Canning Co., lately mentioned as incorporated, are J. C. Stribling, president; J. J. Sitton, secretary and treasurer; H. S. Tregeot, manager.

Rock Hill—Iron Mines.—W. J. Roddey and others are reported as developing iron mines.

Seneca—Barrel Factory.—R. C. Strother, of West Union, will probably erect a barrel factory.

Spartanburg—Electric-light Plant.—The Spartan Mills will put in, it is reported, a Thomson-Houston electric-light plant.

Spartanburg—Oil Mill and Fertilizer Factory.—The officers of the Produco Mills, recently mentioned as incorporated, are R. Z. Cates, president and treasurer; J. W. Wofford, vice president; S. J. Simpson, secretary.

St. Matthews—Oil Mill.—F. J. Buick, P. Rich and L. M. Whaley have incorporated the St. Matthew's Oil Mill. The capital stock will be \$25,000.

Sumter—Planing Mill.—J. B. Carr is erecting a planing mill.

Sumter.—The capital stock of the Central Land & Improvement Co. has been increased, it is reported, from \$10,000 to \$500,000.

Sumter—Grist Mill and Cotton Gin.—R. P. Mayes and G. G. Cooper have purchased, it is reported, a lot from J. F. Bland and will erect a grist mill and cotton gin.

West-Canning Factory, etc.—W. H. Patterson, of Flat Rock, contemplates the erection of a canning factory, also soap and vinegar factory, in Westville.

Yorkville—Yarn Mill.—J. R. Ashe, T. B. McClain, J. H. Riddle and others have organized the York Hosiery Yarn Co. to establish a hosiery yarn mill. The capital stock will be \$50,000.

TENNESSEE.

Bristol—Novelty Works.—A plant for the manufacture of novelties in wood and iron is projected.

Chattanooga—Boiler Works.—The Casey Manufacturing Co., referred to in last issue, has changed its name to the Casey & Hedges Manufacturing Co., and is building an addition 60x350 feet to its boiler shops, and will put in additional machinery.

Chattanooga—Wagon Factory.—It is stated that W. F. McDowell & Co. have purchased the wagon factory of the Chattanooga Wagon Manufacturing Co. and will operate.

Chattanooga.—H. H. Squire, W. C. Jewett, C. D. McGuffey and others have incorporated the Morrison Land Co.

Chattanooga—Iron Furnaces.—H. S. Chamberlain, O. L. Hurlburt, T. H. R. McIntyre and others have incorporated the Chickamauga Iron Co. with the privilege of erecting and operating blast furnaces.

Chattanooga—Tobacco Factory.—I. J. Carter, L. P. Thatcher, J. D. Craighead and others have incorporated the Carter Tobacco Co.

Chattanooga—Gas Works.—A 700-light gas plant is being placed in the Lookout Mountain Inn.

Dayton—Electric-light Plant.—The electric light plant mentioned in last issue is being erected by the Dayton Electric Light Co.

Decherd—Flour Mill.—W. H. Eliason has, it is stated, purchased the Decherd flour mill, put in new machinery, and will operate.

East Chattanooga—Factory.—It is reported that the East Chattanooga Land Co. has closed contract with H. L. Judd & Co. of New York city, for the erection of a factory to manufacture curtain poles, window shade rollers, &c.

East Chattanooga—Dry-kiln and Planing Mill.—The Southern Lumber Co., lately mentioned as to erect new planing mill, will erect a building 65x150 feet, a dry kiln 80 feet long and a 150-foot store shed.

Green County—Mineral and Timber Land.—George H. King, of Kansas City, Mo.; W. P. McClatchy and B. M. Tarver, of Chattanooga; L. C. Ivey, of New Orleans, La., and others are reported as purchasing 70,000 acres of mineral, timber and farming lands in East Tennessee and Western North Carolina from A. S. Johnson, of Chucky City, lately mentioned, for \$350,000. It is proposed to organize a development company.

Harriman—Lumber Mill, &c.—The Emory Planing Mill Co., reported in last issue (under Kingston) as chartered, will erect a lumber mill and sash, door and blind factory. The capital stock is \$25,000.

Henryville—Iron and Steel Works.—E. W. Cole, J. G. Houston, J. H. Eakin and others have incorporated the Napier Iron Co. to manufacture iron, steel, charcoal and alcohol.

Kimball—(P. O. Wallview)—Power Plant.—The Kimball Town Co. contemplates the erection of a large central power plant.

Knoxville—Sewerage System.—R. F. Hartford, of Chattanooga, will prepare plans for the sewerage system recently mentioned.

Lawrenceburg—Electric-light Plant and Bridges.—The erection of an electric-light plant and the construction of bridges is talked of. The Lawrenceburg Land Co. can give information.

Lawrenceburg—Iron Furnace.—The building of an iron furnace is in prospect. The Lawrenceburg Land Co. can give information when anything definite is done.

Lawrenceburg—Brick-yard.—The Lawrenceburg Brick Co. has been organized with a capital stock of \$10,000 for the manufacture of brick.

Memphis—Brewery.—The Tennessee Brewing Co., lately reported as to erect an addition to its brewery, will erect a four-story building 80x100 feet, at a cost of \$9,000.

Mooresburg—Corn Mill.—H. T. Isenberg will erect a corn mill.

Nashville—Box Factory.—The plant of Wilson & Myers, manufacturers of cedar chests and burial boxes, has been purchased by the Harry Myers Manufacturing Co., reported in last issue as incorporated.

Nashville—Gas Works.—The city is investigating as to the advisability of erecting gas works. The mayor can give information.

Nashville—Show-case Factory.—The Terry Manufacturing Co., operating a show-case factory, will increase capital stock, as reported in last issue, from \$15,000 to \$60,000.

Oliver Springs—Brick-yard.—George Shelly will start a brick-yard.

Rhea Springs.—A Kentucky syndicate will probably purchase the Rhea Springs property from S. J. A. Frazier, of Chattanooga.

Tennessee City—Saw Mill.—J. C. Foster, of Edgewood, has purchased machinery for the saw mill mentioned in last issue.

TEXAS.

Alvarado—Cotton Gin.—A 40 bale per day cotton gin will, it is reported, be erected.

Austin—Land.—G. A. Cypher, of Butler, Pa., has, it is stated, purchased 160 acres of land near Austin, and will improve.

Baird—Grist Mill and Gin.—J. B. Hensley will, it is reported, erect a grist mill and cotton gin.

Brenham—Cotton Compress.—It is stated that parties will purchase the cotton compress of the Standard Cotton Oil & Compress Co.

Corpus Christi—Canning Factory.—The Givens Oyster Co. will, it is reported, erect an oyster canning factory.

Corsicana—Canning Factory.—A canning factory will probably be erected.

Corsicana—Artesian Well, &c.—The city will issue bonds for street paving and sinking an artesian well, as stated in last issue. J. F. Stout, mayor, can give particulars.

Denison—Bridge.—The Red River Bridge Co., recently mentioned, has let contract for the construction of its bridge to the Missouri Valley Bridge Co., of Leavenworth, Kansas, at \$50,000.

Dublin—Cotton Compress.—F. C. Oldham, A. A. Chapman, J. B. Green and others have incorporated the Dublin Compress & Manufacturing Co. to operate the cotton compress recently mentioned. The capital stock is \$50,000.

Dublin—Soda Water and Syrup Factory.—It is reported that a soda water factory and a syrup factory will be established.

Dublin—Oil Mill.—Eastern parties are reported as investigating with a view to establishing a cotton-seed oil mill.

Edna—Gin and Grist Mill.—Andy Malsch has, it is reported, purchased the Schorre cotton gin and grist mill, and improving same.

Fort Worth—Furniture Factory.—L. S. Wilson, of Peru, Ind., will, it is reported, erect a furniture factory at Manchester, a suburb of Fort Worth.

Fort Worth.—W. G. Veal and J. O. Wright, of Fort Worth; M. Henderson, of New York city, and others have incorporated the Boston & Texas Land & Loan Co. with a capital stock of \$40,000.

Fort Worth—Cotton Mill.—A company has submitted a proposition to erect a cotton mill to employ not less than 100 operatives if granted certain inducements. S. M. Furman can give information.

Galveston—Beef Refrigerators.—The Texas Dressed Beef & Packing Co., previously mentioned (under Fort Worth) as organized to operate the Columbus and Victoria beef refrigerators, has been incorporated by H. B. Stoddard, R. E. Madrox, G. W. Fulton and others with a capital stock of \$1,000,000.

Greenville—Packing House and Refrigerator.—The Greenville Ice Co. will, it is reported, add a packing house and refrigerator to its ice factory.

Greenville—Sewerage System.—The Warren system of sewerage will be constructed by Kellogg, Thomson & Co., of Denison, referred to in last issue.

Hillsboro—Tie Factory.—The Shippers Compress & Manufacturing Co., reported in last issue as incorporated, will also manufacture cotton ties.

Houston—Foundry and Machine Shops.—A stock company will probably be organized to erect foundry and machine shops.

Houston—Planing Mill.—J. G. & C. H. Hutchins, of Lincoln, Neb., will, it is stated, erect a planing mill in Houston.

Houston—Canning Factory.—A \$15,000 stock company has been organized by J. W. Haskins, H. B. Rice, G. A. Fosgard and others to erect the canning factory recently mentioned.

Houston—House Factory.—It is stated that a stock company has been organized with D. M. Angle, president, and W. T. Cumming, secretary, to erect a portable house factory, the capital stock to be \$50,000.

Jefferson—Bridges.—The Mosely and the Burns bridges will probably be replaced by iron bridges.

Kosse—Brick-yard.—Bryan & Johnson, referred to in last issue, have started a brick-yard and will soon put in machinery.

Landrum—The Landrum Hotel & Improvement Co. has been chartered by J. W. Gray, of Greenville; N. F. Carpenter and J. M. Robinson, of Landrum, with a capital stock of \$10,000.

Laredo—Rolling Mill.—A rolling mill will, it is reported, be built. The Laredo Improvement Co. can give information.

Llano—Iron Furnace, &c.—The Llano Improvement & Furnace Co. has increased its capital stock to \$1,000,000, paid up, to purchase additional Bessemer iron lands, erect blast furnaces and other industrial plants. Plans for the company's furnace, previously referred to, are being

prepared by a Philadelphia engineer. It will cost about \$150,000.

Llano—Smelting Works.—The Llano Smelting & Refining Co., lately reported as chartered, will soon commence the erection of a \$100,000 plant.

Marble Falls—Cotton Mill.—Northern parties have submitted a proposition to the Texas Mining & Improvement Co. to erect a cotton mill.

Marble Falls—Stone Quarry.—It is stated that a stock company will develop a lithographic stone quarry near Marble Falls.

Marble Falls—Lead Mine.—A lead mine is reported as being developed near Marble Falls.

New Birmingham—Iron Furnace, &c.—The New Orleans syndicate recently mentioned as to build a 50-ton iron furnace and as purchasing 400 acres of iron lands, has been incorporated as the Cherokee Iron Manufacturing Co., with A. B. Britton, president, and E. S. Mansell, secretary. A site has been selected, and R. A. Barrett, of Rusk, will prepare the plans and specifications. The capital stock is \$500,000.

Palestine—Furniture Factory.—A. N. Glenn and others have it is reported, leased the Eureka Manufacturing Co.'s plant and will put in new machinery for the manufacture of furniture.

Rockdale—Brick-yard.—The Rockdale Brick Co. is reported as starting a brick-yard.

Rusk—Timber Land.—It is stated that Dunkan Font has optioned 35,000 acres of timber land in Cherokee county.

San Antonio—Bottling Works.—The Alamo Bottling Co. has, it is reported, added bottling works at a cost of \$8,000.

San Antonio—Ice Factory.—A. I. Lockwood, W. G. Snell, Frank Brown and others are organizing a stock company to erect an ice factory.

Taylor—Gin and Oil Mill.—J. E. Tucker is president, and J. P. Sturgis, secretary, of the Taylor Cotton Seed Oil & Gin Co., recently mentioned.

Waco—The Reservoir Heights Improvement Co. has been incorporated by Samuel Sanger and others with a capital stock of \$50,000.

Waco—Cotton Mill.—A stock company will probably be organized to erect a cotton mill of 10,000 spindles. The secretary of the Board of Trade can give information.

Waco—Wool-scouring Mill.—A proposition has been made for the erection of a wool-scouring mill. The secretary of the Board of Trade can give information.

VIRGINIA.

Abingdon—Land.—The Litchfield Land Co. has been organized with W. A. Stuart, president; T. A. Trigg, treasurer; G. V. Litchfield, secretary, to develop and lay off into lots 700 acres of land near Abingdon. The capital stock is to be \$120,000.

Barrow-on-Potomac—New Town, etc.—The Barrow Land Co. is the purchaser of the land referred to in last issue (under Prince William county). The company is organized with Hon. J. S. Clarkson, president; Arthur B. Meeker, vice president; R. P. Hughes, secretary, all of Washington, D. C., for the purpose of building the new town of Barrow-on-Potomac. It controls about 52,000 acres of iron ore and timber land, and has a capital stock of \$5,000,000. The location of the following industries is proposed: Two iron furnaces, basic steel plant and rolling mill, by the Barrow Steel Co.; chemical works, the Barrow Charcoal & Chemical Co.; marine railway and dry docks, machine shops, etc., the Barrow Ship Building Co.; tin-plate mill, the Barrow Tin Plate Co.; soda ash works, the Barrow Soda Ash Co.; sulphuric acid and fertilizer works by Boston and Baltimore parties. Present address of company is 1427 F street N. W., Washington, D. C.

Berkley—Machine Works.—Clarke & Cunningham will operate, it is reported, the machine works recently mentioned as being erected by Charles Colona.

Clifton Forge—Machine Shops.—The foundation, 1,750x450 feet, for the new machine shops recently mentioned as to be built by the Chesapeake & Ohio Development Co. for the Chesapeake & Ohio Railroad, has been laid off, it is reported, and work will be commenced at once.

Cloverdale—Land, etc.—A company has been organized, it is reported, to option 700 acres of land and improve the same; also construct a dam 40 feet high at Carvin's Cove.

Covington—Brick Plant.—The Covington Improvement Co. will erect a \$10,000 brick plant, it is reported, to have a capacity of 30 M brick per day.

Covington—Iron Furnace.—The Covington Improvement Co., recently mentioned as to establish an iron furnace, is having plans for the same prepared by John Hartman, of Taws & Hartman, Philadelphia, Pa. It will be 14x70 feet, and have a capacity of 75 tons per day.

Covington—Rolling Mill.—D. C. Lauth, of Philadelphia, Pa., is preparing plans for the rolling mill lately mentioned for the Covington Improvement Co. The capacity of the mill will be 50 tons per day.

Covington—Hinge Factory.—Negotiations are pending, it is stated, for the location of a hinge factory in Covington.

Dumfries—Flour Mill.—T. B. Mitchell & Co. contemplate adding a flour mill to their corn mill.*

Farmville—Flour Mill.—The Farmville Mills will probably remodel its flour mill and put in additional machinery.*

Franklin—Canning Factory.—J. P. Gay contemplates erecting a canning factory.*

Harrisonburg—Coal and Iron Mines.—The Harrisonburg Mineral & Development Co., referred to in last issue, has purchased 6,300 acres of land, on which has been discovered coal and iron. The company also owns 2,000 acres of red hematite iron ore land, and is developing both tracts.

Lawyers—Mineral Lands.—The Campbell Co. has been organized with C. M. Blackford, president; John Hickson, vice-president; W. W. H. Harris, secretary and treasurer, to purchase about 5,000 acres of mineral land, and will, it is reported, establish an iron furnace, develop a marble quarry, etc. The capital stock is \$200,000.

Locust Hill—Gold Mining.—The Locust Hill Gold Mining Co. has been incorporated with a capital stock of \$100,000.

Louisa C. H.—New Town.—The Mineral City Mining, Manufacturing & Land Co. has been organized with R. P. Talley, president; W. H. F. Lee, vice-president, and P. B. Porter, secretary. It has purchased town site and mineral land and intends developing. The capital stock is \$200,000.

Lynchburg—Sheet Mill, etc.—A Pennsylvania syndicate is reported as corresponding with the Rivermont Co. relative to the location of a sheet-iron mill in Lynchburg. It offers to furnish, it is stated, \$53,000 if the company will subscribe \$25,000; also to establish works for the manufacture of light locomotives, and will contribute \$53,000 of the required \$100,000 capital stock.

Lynchburg—Iron Furnace.—The Lynchburg Furnace has been blown out for repairs and improvements.

Lynchburg.—An effort is being made, it is reported, to organize a stock company to develop East Lynchburg.

Middletown—Woodworking Factory.—The Virginia Building Co. will establish a woodworking factory.*

New Castle—Coal and Iron Mines.—Mr. Windell, of Richmond, and Mr. Strauss, who represents New York city parties, have been prospecting near Stone Coal Gap with a view to developing coal and iron mines.

New Castle—Woodworking Factory.—John F. Cripps, previously reported as erecting a flour mill, contemplates adding woodworking machinery.*

Roanoke—Coffee and Spice Mill.—W. J. Dilworth & Co., of Norfolk, have established a branch coffee and spice mill in Roanoke.

Roanoke—Land, etc.—The Midway Land Co. has been organized with J. V. Tavenner, president, to improve its property, establish water works, gas and electric light plants, etc.; it has also secured the removal from Greencastle, Pa., to Roanoke of a spike mill, the building for which will be 75x100 feet, addition 70x100, and to be operated by the Midway Iron Co., lately referred to.

Roanoke—Land, etc.—The West Roanoke Land Co. has been organized with C. H. Mellon, president; S. T. Eisenbrey, secretary and treasurer, both of Philadelphia, Pa., to deal in and improve real estate, the capital stock to be not less than \$50,000, nor more than \$500,000.

Roanoke.—The Roanoke Grocery & Milling Co. has been organized with S. W. Jamison, president; J. A. Jamison, secretary and treasurer. The capital stock is \$75,000.

Roanoke—Sewerage System.—The Glade Land Co., previously mentioned, will construct, it is reported, a sewerage system in the Glade addition.

Roaring Run—Iron Mines.—Messrs. Horton, of Pennsylvania, and Mr. Farley are reported as developing the Roaring Run iron mines.

Rural Retreat—Coal Mines.—H. A. Eiffert will develop the coal mine mentioned in last issue.*

Salem—Water Works.—The Salem Development Co. will construct water works, it is reported, to supply the city with water from a spring 9½ miles distant.

Salem—Manganese Mines.—Manganese ore has been discovered, it is reported, upon the property of the West Salem Land Co., and will be developed.

Warrenton—Spoke Factory.—The East Virginia Mineral & Warrenton Improvement Co. contemplates the manufacture of spools and spokes.*

Windsor Station—Canning Factory, etc.—The Windsor Alliance Factory & Mercantile Co., reported in last issue as chartered, will probably erect a canning factory, fruit evaporator and grist mill.*

WEST VIRGINIA.

Benwood—Gas Works.—The Riverside Steel Works will probably erect a plant for the manufacture of gas.

Charlestown.—R. P. Chew is president; Joseph Trapnell, vice-president, and John Porterfield, treasurer, of the Charlestown Mining, Manufac-

turing & Improvement Co., recently mentioned. The capital stock is \$500,000.

Fairmount—Coal Mines and Coke Works.—The Monongahela Coal & Coke Co., mentioned in last issue, has been organized with S. W. Cotton, president. The company owns large tract of coal land. The capital stock is \$2,000,000.

Falling Spring—Separator.—The Greenbrier Creamery Co., of Lewisburg, is erecting the separator previously mentioned.

Grantsville—Bridge.—The county commissioners have advertised for bids for the construction of a 225-foot steel bridge over the Little Kanawha river.

Keyser—Building Material Factory.—P. H. Nefflen, Richard Gerstell, C. W. Daily and others have incorporated the West Virginia Building Co. to manufacture portable houses, building material, etc. The authorized capital stock is \$25,000.

Keyser—Flour Mill.—L. A. Rizer has enlarged his flour mill.

Mannington—Oil Well.—Preston & Co. will sink an oil well.

Mannington—Oil Wells.—The Frog Pond Co. has been organized to sink oil wells.

New Haven—Oil and Gas Wells.—The Mason County Oil & Gas Co., lately reported as organized, has elected J. W. S. Sheppard, president; H. E. Spillman, vice president, and D. L. F. Roush, secretary. It has purchased leases on 12,000 acres of oil lands in Mason county and will sink wells. The capital stock is \$100,000.

Philippi—Oil Well.—The Tygarts Valley Oil & Mineral Co. has let contract for the sinking of an oil well.

Raleigh C. H.—Bridge.—The Piney River Bridge Co. will, it is stated, erect a steel toll bridge.

Wheeling—Cracker Factory.—A stock company will probably be organized to establish a cracker factory.

Wheeling—Oil and Gas Wells.—J. H. Hobbs, Anton Reymann, J. F. Sweeney and others have incorporated the Windsor Oil & Gas Co.

Building Notes.

Acworth, Ga.—Hotel.—Henderson & Austin, of Marietta, are reported as having secured contract for the erection of the hotel lately mentioned.

Americus, Ga.—Hotel.—The Americus Manufacturing & Improvement Co. will receive proposals until June 20 for the erection of the hotel lately referred to. Plans can be seen at office of S. H. Hawkins, president, Americus, or G. L. Norrman, architect, Atlanta.

Asheville, N. C.—P. A. Demens intends erecting a residence to cost \$15,000.

Atlanta, Ga.—John P. Sample has secured contract for the erection of a fire-engine house, previously mentioned, his bid being \$5,450.

Augusta, Ga.—G. S. McFadden, secretary Y. M. C. A., writes that the association intends erecting the building lately referred to as soon as possible, perhaps in the fall. Plans not yet completed. Building will probably be heated by steam.

Bainbridge, Ga.—The city has decided, it is said, to erect a brick academy building to cost \$8,000.

Baltimore, Md.—The erection of a morgue is being agitated.

Baltimore, Md.—Permits have been granted to J. Thomas Scharf for the six story brick warehouse lately mentioned; to Joseph P. Dunphy for a three-story warehouse.

Baltimore, Md.—Henry Smith & Sons have contract for remodeling the Lyceum Theatre, lately mentioned.

Basic City, Va.—A. R. Rosenberg, of Waynesboro, will, it is stated, erect a residence to cost \$10,000, and a bank building to cost \$8,000.

Birmingham, Ala.—The Elyton Land Co. has decided to appropriate \$250,000 for the purpose of establishing and endowing an institute of technology. Plans are to be shortly prepared.

Birmingham, Ala.—Charles Drennan is erecting the building on the lot of Stinson & Brown, lately reported; also another building.

Birmingham, Ala.—The Gilreath Construction Co. has commenced work on the four-story building to be erected for Barnett & Martin.

Buena Vista, Va.—Hotel.—The Alvarado Park Co., mentioned last week, will erect a hotel and summer cottages. J. H. Dinneen, of Richmond, can give information.

Chattanooga, Tenn.—The Chattanooga Plow Co. is erecting an addition to its warehouse 50x60 feet.

Chattanooga, Tenn.—Adams & Schneider are said to have secured contract for the erection of the house previously mentioned for the Mountain City Club; cost, \$25,000.

Chattanooga, Tenn.—Hotel, etc.—Negotiations are said to be pending for the purchase of a site for the erection of a hotel and opera house combined to cost about \$500,000.

Chattanooga, Tenn.—The Casey Boiler Manufacturing Co. is building a warehouse 80x300 feet.

Chattanooga, Tenn.—Hotel, etc.—Chattanooga parties are said to contemplate the establishing of a summer resort at Walden's Ridge to be called Highland Mineral Springs, and the erection of a hotel and a number of cottages.

Durham, N. C.—S. L. Leary, 5 E. Trade street, Charlotte, has prepared plans for the erection of the buildings to be built for Trinity College, lately referred to, main building to be 200x100 feet and cost \$50,000; smaller buildings to cost \$5,000 each. Steam heating, electric lights, etc., will be used. Mr. Leary wants bids from contractors about August for the erection of the buildings.

Florence, Ala.—McCluskey & Young will, it is stated, erect a 3-story brick and stone block 78x175 feet.

Fort Smith, Ark.—Thomas Harding, of Little Rock, is preparing plans for the erection of a Roman Catholic church to cost \$50,000.

Fort Worth, Texas.—James Swayne will, it is reported, erect at once a residence to cost \$12,000.

Greenville, Texas.—The King Opera House Co. has been chartered with a capital stock of \$30,000.

Henrietta, Texas.—George F. Rozell, of Little Rock, Ark., will, it is stated, erect two 3-story buildings.

Knoxville, Tenn.—M. E. Thompson will, it is said, erect a business block.

Knoxville, Tenn.—Hotel.—Work has been commenced on the hotel previously reported as to be built by the Gay Street Improvement Co.

La Grange, Texas.—Joseph Ehlinger, county clerk, will receive proposals until June 24 for the erection of the Fayette county courthouse, lately mentioned as to be built. Plans can be seen at county clerk's office, or at office of J. R. Gordon, architect, San Antonio.

Laredo, Texas.—Alexander Thaison has secured contract for the erection of a building for the electric-light and railway plant for the Laredo Improvement Co.

Llano, Texas.—Hotel.—The Llano Improvement & Furnace Co. has let contract for its hotel, previously mentioned, to be built of brick and native granite; cost \$52,100.

Llano, Texas.—The J. B. Legg Architectural Co. has prepared plans for the erection of seven stone business houses to cost \$10,000 each, to be built by the Llano Improvement & Furnace Co.; contract will be let immediately.

Landrum, Texas.—Hotel.—The Landrum Hotel & Improvement Co. has been chartered by J. W. Gray, of Greenville; Noah F. Carpenter and J. M. Robinson, of Landrum; capital stock \$10,000.

Lawrenceburg, Tenn.—The Lawrenceburg Land Co. has located the Lawrenceburg Normal Institute upon its grounds, building to be commenced at once and cost \$15,000.

Leesburg, Fla.—The Masons will, it is stated, erect a temple to cost \$6,000.

Louisa C. H., Va. Hotel.—The Mineral City Mining, Manufacturing & Land Co. will erect a hotel to cost about \$50,000.

Lumberton, N. C.—The Farmers' Alliance is reported as to erect a warehouse. J. H. McNeil can give information.

Lynchburg, Va.—Hotel.—The Norfolk & Western Railroad Co. (office, Roanoke) is said to have purchased site for the erection of a hotel.

Madison, Ga.—The Madison Variety Works, J. L. Griffin, P. V. Carbine and F. C. Foster will each, it is said, erect a brick building.

Manning, S. C.—A city hall to cost \$5,000 will probably be erected.

Mansfield, La.—W. R. Hewett will soon let contract for the erection of building for the bank lately mentioned.

McDonough, Ga.—The Farmers' Alliance will, it is reported, erect a cotton warehouse.

Middlesborough, Ky.—The buildings mentioned elsewhere in this issue as burned will be immediately rebuilt with stone and brick.

Natchez, Miss.—Phillip Essig has commenced work preparatory to the erection of his iron front building.

Natchez, Miss.—Davis & Wright have prepared plans for the erection of a 5 story business block.

Newberry, S. C.—The Newberry Building & Investment Co., lately mentioned, has been organized with Q. B. Mayer, Jr., J. M. Johnstone, L. W. Floyd, G. G. Sale and others as directors.

Newport, Ky.—Reil & Co. have contract for the school building previously mentioned, their bid being \$27,470.

Paris, Ky.—Contract is reported as having been let for the erection of the opera house lately mentioned as to be built by the Paris Opera House Co.

Prince Fredericktown, Md.—Hotel.—It is said that New York parties intend to establish a summer resort on Chesapeake bay in Calvert county, and will erect a hotel to cost \$100,000; also, it is reported, will construct a railroad to Washington, D. C.

Roanoke, Va.—The Iron Belt Building & Loan

Association has been organized with Fitzhugh Lee, president, and John Ott, secretary; capital stock \$100,000.

Salem, Va.—Hotel.—N. Hockman, of Roanoke, is said to have contract for the erection of a hotel to cost \$55,000.

Savannah, Ga.—The New Houston Street Methodist congregation will erect a church to cost about \$8,000. J. R. Eason is said to have contract.

Stephenville, Texas.—E. N. Curtis will receive proposals until June 10 for the erection of a two-story stone business house. Plans can be seen at Stephenville and at office of J. J. Kane, architect, Fort Worth.

Vienna, Ga.—A. J. Comer has contract for the erection of the courthouse lately referred to, instead of his firm, Middleton & Comer.

Washington, D. C.—Permits have been granted to Edward Woltz to erect 5 brick dwellings to cost \$15,000; to Theodore Fricbas, Sr., 4 brick dwellings to cost \$7,500; to E. S. Wormley, to erect to brick dwellings to cost \$25,000; to J. N. Lane, to erect one dwelling to cost \$6,000; plans have been prepared by O. Van Natta for 5 dwellings to cost \$28,000, also for 6 dwellings to cost \$30,000; by Edward Woltz for 5 dwellings to cost \$12,000; by Barry, Simpson & Andrews for a dwelling to cost \$15,800.

Waynesboro, Ga.—The Waynesboro Warehouse Co. will, it is reported, shortly commence the erection of a warehouse.

Yazoo City, Miss.—Charles Dollman, of Memphis, Tenn., is said to have secured contract for the erection of the schoolhouse lately mentioned.

BURNED.

Birmingham, Ala.—The roundhouse and machine shops of the Birmingham, Powderly & Bessemer Railroad at Trevelack.

Dublin, Texas.—Two brick store buildings of J. M. Reinhart.

Eastman, Ga.—The turpentine still of Melican & Co. near Eastman.

Gainesville, Fla.—Foundry and machine shop; loss, \$10,000.

Greenville, N. C.—The saw mill, grist mill and ginny of R. H. Garriss, in Swift Creek township; loss about \$3,000.

Higley, Fla.—The saw mill of W. H. Scott, near Higley; loss \$2,000.

Louisville, Ky.—The Dupont Paper Mills; reported loss \$235,000.

Middlesborough, Ky.—The Vail Building, Coal & Iron and Commercial Bank buildings, the Central and Oxford hotels, and a large portion of the business houses and dwellings of Middlesborough; loss estimated at \$100,000. The burned district will immediately be rebuilt with stone and brick.

New Orleans, La.—The saw and planing mills of Cooper Bros. & Co. at Packata.

Savannah, Ga.—The business house of Mrs. K. McMahon's estate; loss about \$15,000. Address John Flannery for information.

Booms, Desirable and Undesirable.

In a recent discussion of booms, the Richmond Times has the following to say:

"In the general judgment of booms, one important distinction should be drawn. A boom which originates in a community, and which finds its only support in the speculative spirit prevailing in that community, is to be earnestly deprecated. All the chances are that it will end in inflicting the gravest injury upon every form of material interest by creating an unjustifiable expansion of values, to be followed by an inevitable collapse. A boom however, which is sustained by the influx of outside capital, is a boom which, if not carried to an extreme point, can do only good. It will attract the attention of the outside world to an ever-increasing degree, and in attracting this attention it will draw to the locality where it occurs a growing stream of immigrants with wealth and various industrial interests.

The remarkable material activity now prevailing in so many parts of Virginia rests upon a more substantial basis than is generally supposed, not only because the resources of the State are so enormous and as yet so undeveloped, but also because so very large a proportion of the capital now being employed to turn these resources to account is from communities outside of the State. If this capital were drawn from Virginia alone, there would be imminent danger of a reaction that would be attended by the gravest disasters."

Fort Payne Notes.

[Special Cor. MANUFACTURERS' RECORD.]

FORT PAYNE, ALA., May 31, 1890.

The Fort Payne Coal & Iron Co. has decided to issue all of its treasury stock, which amounts to 10,000 shares. This stock is to be sold on a basis of \$37 per share, which will place in the treasury \$370,000. One Boston capitalist offered to take the entire block on the foregoing basis, but the directors decided to first give the original stockholders the option of taking the stock. The 18th of June is the last day fixed for making subscriptions. After that, if any of the stock remains unsold, the residue will be taken by one man in Boston.

The recent developments at this point have so far surpassed the expectations of the most sanguine that the company has decided to make many improvements in its property. The brown ore-bed has now been increased to a depth of 24 feet, and Col. J. H. Mullin, the mining engineer of the Fort Payne Coal & Iron Co., gives it as his opinion that the deposit will reach a depth of from 30 to 35 feet.

Several openings have been made on Sand mountain, and coal has been found in great abundance at that point.

The coal vein just above the Manitou Park Hotel has reached a thickness of 40 inches only a little over 30 feet from the opening, and it is believed the vein will finally reach a thickness of from 4 to 5 feet. This is what is known as the Dade vein.

All these things have led the officers of the company to go ahead and build a large number of new coke ovens, and that work will be begun in the near future.

On account of the rapid increase in the business of the city, the Bank of Fort Payne has increased its capital stock from \$50,000 to \$100,000. The old stockholders were paid a dividend of 20 per cent. the first year, and the new stock was placed at par, all of it having been taken by the old stockholders.

The first instalment of 50 per cent. on the stock of the People's Savings Bank has been called in, payable by June 10. The capital of this bank has been fixed at \$50,000. The balance of the stock must all be paid in by September 1. This bank is going to erect an elegant banking-house at the corner of Main street and Gault avenue. A safe-deposit vault will be added.

The interior of the opera-house is being remodeled and refitted preparatory to the opening of the season, early in the fall, with thirty-five first-class performances.

The blowing engines of the Fort Payne furnace have arrived, and are being placed in position as rapidly as possible. This furnace will probably be ready to blow in about July 10th. The delay has been caused by the non-arrival of the machinery.

The rolling mill is progressing rapidly. The machinery for one complete mill has arrived, and is being set up. Work on the two steel furnaces is going ahead, and they will be finished in about a month.

Five Gleeson self-feeding nail machines have been set up at the rolling mill, and they will be put into operation just as soon as the driving pulleys arrive.

The fire-clay works are now engaged in the manufacture of No 1 fire-brick. They are a great success.

The stove works cannot begin to fill their orders. Besides shipping stoves into nearly every Southern State, they have orders from Cleveland, Ohio, Chicago, and several large cities in Iowa.

The lime works are adding a third furnace. They are now turning out 160 barrels of lime per day, and when the third furnace is completed their capacity will be increased to 240 barrels per day. They are several weeks behind their orders.

The builders' hardware plant is nearing completion, and the machinery is expected

to arrive inside of the next week or ten days. All of the buildings are under roof.

Building operations continue quite active. A large number of new houses are going up.

The Bay State Furnace Co. is actively engaged on the second furnace. The contractor is at work on the machinery, and promises to have the furnace ready to go into operation by January 29, 1891.

The city election comes off early in July, but no ticket has been nominated yet. A mass-meeting will be called in a few days to make nominations.

J. M. V.

MANUAL OF INVESTMENTS: Important Facts and Figures Regarding Southern Investment Securities. Compiled and published by John L. Williams & Son, bankers, Richmond, Va. Price, \$2.00.

The 1890 edition of this manual is just at hand, and is even more complete than previous issues. The publishers have every advantage for obtaining the latest and most accurate information regarding investment securities in the South, and the manual bears evidence that all this information has not only been carefully worked up, but studiously and systematically set forth. There is a deal of information in these pages that is not obtainable elsewhere. Investments nowadays are not made without close investigation. To use the common phrase, capital is sensitive. But with such information at hand as this manual contains, there need be no excuse for capital hesitating about seeking investment in Southern securities for lack of information. The book is not exhaustive by any means—the subject is far too vast for any one volume to grasp it—but it is an excellent guide, and will greatly benefit the South by demonstrating to the world the true character and soundness of Southern securities. Regular customers of the Messrs. Williams receive copies gratis. To others the volume is sent on receipt of the price, \$2.00.

HENRY W. GRADY: His Life, Writings and Speeches. Memorial volume. Compiled by Mr. Grady's co-workers on the Constitution, and edited by Joel Chandler Harris. Sold by subscription only. Cassell Publishing Co., New York.

No event has so touched the Southern heart for years as did the sudden death of Mr. Grady last December. His personality exactly filled the needs of the times. He had confidence in himself; he was a true Southerner; he was a patriotic citizen of the United States, and he had a happy faculty of stating truths in a way that was vigorous and telling, and yet not harsh or grating. The South needed his services in the great work of building up the South of the future, and the rest of the country needed his services because of his happy way of stating truths. The rest of the country believes in the South in the abstract, but old animosities and political feelings have held in check the cordial feelings that should exist between all citizens of our country. In this volume the world is given insight into the every-day life of this marvelous character, who worked early and late for fraternity and the obliteration of the harsh distinctions of North and South, and who was stricken down a few hours after his master effort in the carrying out of this great work.

The South and the country at large are fortunate in having the making of this book in good hands—in the hands of his most intimate and his truest friends. It is not the cold analysis of his character as a human being by some strange land that is wanted, but a true study of the Henry Grady that we all learned to know so well. It is this that shows the greatness of the man. It is fitting that In Memoriam should be from the pen of Henry Watterson; that Joel Chandler Harris should write the biographical sketch, and that Marion Verdery should write the memorial sketch. Here we have the tribute of those who knew the man and his character intimately. Follow.

ing these tributes in the volume are extracts from the speeches and writings of Mr. Grady. These tell us of Grady, the man and the author, and over 300 pages are taken to tell the story. The more than 300 pages following tell of Grady, the statesman, the orator and the leader of thought and men, not from the pens of his intimate friends alone, but from admirers from all parts of the country, from the Gulf to the Lakes and from the Atlantic to the Pacific. It is in these last pages that we learn of the greatness of the man and of his success in touching the hearts of all classes of people. Sad as was the ending of this career, when only reaching the ripeness of its power, the contents of the volume show that his life was one of rare fruitfulness; that he had accomplished a grand and noble work for the South and for the country, and that in passing away almost before the echoes of the words of his master effort had died away, he had consummated pathetically what his previous years of hard work had paved the way for.

THE GREAT TOWN BUILDER

Sixteen Towns Is the Number Credited to W. P. Rice.

Phil Haralson, says the Atlanta Journal, is a great admirer of Rice, the famous town builder, who is now building Cardiff, Tennessee.

"Talk about a Napoleonic boomer," said Mr. Haralson, "but I never heard of one yet who could come up to Rice. He has built sixteen young cities, and nobody knows where he will stop. He looks around and sees a place where there ought to be a town or city. He has plenty of money of his own, and is backed by almost countless millions. He buys all the land around the proposed town, and goes to work. The first thing he does is to organize a national bank, and that is sometimes done before there is a single house on the site of the proposed town. Then he organizes various manufacturing establishments. Millions of dollars are spent in the briefest imaginable time, and woods and fields are transformed into thriving and prosperous cities. Fourteen months ago he started Fort Payne in Alabama. There was nothing there except two or three small wooden stores. He bought all the land he could, but the fellows who owned the little stores caught on and refused to sell, so he built his town three-quarters of a mile above them in the valley, and left them alone in the outskirts. Fourteen months ago there was practically no Fort Payne. Now the population is about 8,000. Rice's latest town is Cardiff. He is spending \$800,000 there on streets. He has one avenue two miles long, a hundred feet wide and laid in asphalt. Not long ago the place was old fields. At a sale a few days ago property brought \$278 per front foot. I saw 104 sleeping cars standing on the side track that had brought people there to buy at the sale. The people were wild. It is said that one deaf man got excited and bid against himself four or five times, he was so anxious to get a particular lot. Rice's towns always have the latest improvements and conveniences for cities, magnificent buildings and manufacturing establishments with unlimited capital. Rice has built sixteen towns, and has a magnificent residence in each town, which, of course, he does not occupy, for he always has a new town on hand. I don't know where he will go when he gets through with Cardiff, but he may be counted on to start another town as soon as he gets through with that place. He beats anything in the way of a city builder that I ever saw."

THE recent speech of Congressman McKinley, of Ohio, before Congress on the pending tariff bill has just been issued in pamphlet form. The speech includes valuable statistical tables, and is an admirable presentation of the advantages of the principles of protection, as embodied in the new tariff bill. Send a two-cent stamp for a copy to the American Protective Tariff League, 23 West 23d street, New York city.

MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Barrel Factory.—J. H. Pecor, secretary, Maysville, Ky., may want machinery for a barrel factory.

Blast Engines, etc.—Alex. K. Rarig & Co., Columbus, Ohio, want prices at Fort Payne, Ala., or Cincinnati, of two 84x48 inches blast engines and an 8x10-inch vertical hoist engine with cages, sheaves, ropes, etc., for an iron furnace.

Boiler and Engine.—J. W. Tippet & Henson, Franklinville, N. C., wants a 20 horse-power boiler and engine.

Boiler and Engine.—The Vienna Improvement Co., Vienna, Ga., will purchase a 50 horse-power boiler and engine.

Boiler and Engine.—The Virginia Building Co., Middletown, Va., will purchase a 60 horse-power boiler and 50 horse-power engine.

Boiler and Engine.—The Arctic Ice Co., Hallettsville, Texas, wants a 25 horse-power tubular boiler and 20 horse-power stationary engine.

Boiler and Engine.—R. C. Strother, West Union, S. C., wants prices on a 50 horse-power boiler and engine.

Boiler and Engine.—Paul S. Felder, Orangeburg, S. C., wants prices on a 75 or 100 horse-power boiler and engine.

Boiler and Engine.—The Windsor Alliance Factory & Mercantile Co., Windsor Station, Va., may want a boiler and engine.

Boiler and Engine.—C. J. Schelky, New Berne, N. C., will want a boiler and engine of about 50 horse-power.

Boiler, Engine, etc.—The Richmond Stove Co., Richmond, Va., may want prices on a boiler and engine; also shafting, etc.

Boiler, Engine, etc.—W. T. Yelverton, Goldsboro, N. C., wants a small boiler and engine, also shafting, etc.

Boiler and Pump.—W. B. Folmar, Troy, Ala., wants prices and description at once on a boiler and pump delivered at Troy, with capacity to throw water 2,000 feet with elevation of 175 feet at the rate of 100 gallons per minute.

Brick Machinery.—Bryan & Johnson, Kosse, Texas, will soon want brick machinery.

Brick Machinery.—Brick machinery is wanted at Tredegar (P. O. Jacksonville), Ala. Address G. B. West.

Brick Machinery.—J. H. David & Bro., Dillon, S. C., want prices and information on brick machinery.

Canning Factory.—J. P. Gay, Franklin, Va., wants prices on machinery and information relative to the canning of fruits and vegetables.

Canning Factory.—D. M. Stanton, La Grange, N. C., wants machinery for a canning factory.

Canning Factory.—W. H. Patterson, Flat Rock, S. C., wants information and prices on machinery for a canning factory.

Canning Factory.—J. A. Henderson, Huntington, Fla., wants prices on machinery for a canning factory; also information about the business.

Canning and Evaporating Machinery.—The Windsor Alliance Factory & Mercantile Co., Windsor Station, Va., may purchase machinery for a canning and evaporating factory.

Car Works.—Lalor Sherrey, Stevenson, Ala., will want machinery for steel car works.

Corn Mill.—H. T. Isenberg, Mooresburg, Tenn., wants a corn grinding mill.

Corrugated Iron.—Alex. K. Rarig & Co., Columbus, Ohio, want about 200 squares of No. 22 corrugated iron.

Cotton Factory.—J. A. Hadley, Boston, N. C., wants the address of dealers in cotton machinery.

Cotton Mill.—J. P. Parker, Monroe, La., will purchase machinery for a cotton mill.

Cotton-seed Oil Mill.—J. P. Parker, Monroe, La., wants prices on machinery for a cotton-seed oil mill.

Cotton-seed Oil Mill.—Paul S. Felder, Orangeburg, S. C., wants bids on machinery for a cotton-seed oil mill of at least 20 tons daily capacity.

Drill.—H. A. Eiffert, Rural Retreat, Va., wants a prospecting drill to develop coal and other minerals.

Electric-light Plant.—E. W. Butler, mayor, Madison, Ga., desires propositions for the erection of an electric-light plant.

Electric-light Plant.—S. L. Leary, 5 E. Trade

street, Charlotte, N. C., desires correspondence relating to purchase of electric-light plant.

Elevator.—The Columbus Investment Co., Columbus, Ga., wants prices on an elevator for building to be erected.

Engine.—P. Wagnon, Ball Play, Ala., will probably want a 10x12 engine.

Engine.—Griffin & Glenn, Oxford, N. C., want a 15 horse-power second-hand engine.

Engine.—The Meadows Tobacco Co., Oxford N. C., wants a 6, 8 or 10 horse power second hand engine.

Fertilizer Mixer.—The Dalton Guano & Manufacturing Co., Dalton, Ga., wants a fertilizer mixer.

Flour Mill.—T. B. Mitchell & Co., Dumfries, Va., wants prices on machinery for a flour mill.

Flour Mill.—The Farmville Mills, Farmville, Va., wants estimates on latest improved machinery for a flour mill.

Force Pump.—S. L. Leary, 5 E. Trade street, Charlotte, N. C., wants prices on force pump.

Gins.—The Vienna Improvement Co., Vienna, Ga., will purchase about 4 cotton gins.

Ginney.—Paul S. Felder, Orangeburg, S. C., will purchase outfit of machinery for a cotton ginney.

Grader and Roller.—J. F. Stout, mayor, Corsicana, Texas, will purchase a grader and roller.

Grist Mill, etc.—The Windsor Alliance Factory & Mercantile Co., Windsor Station, Va., may want grist mill machinery; also roofing and an elevator.

Heating Apparatus.—The Columbus Investment Co., Columbus, Ga., wants prices on heating apparatus.

Hoisting Machinery.—The Cherokee Talc Co., Tomatla, N. C., wants prices on hoisting machinery for raising talc of from 5 to 20 tons weight.

Hoop and Shingle Machinery.—E. C. Worrell, Murfreesboro, N. C., wants prices on machinery for the manufacture of hoops and shingles.

Ice Machine.—The Arctic Ice Co., Hallettsville, Texas, wants a 3-ton ice machine.

Iron Furnaces.—W. E. Dabney, Stevenson, Ala., will want two 100 ton iron furnace plants.

Locomotive.—The Tyler County Logging Co., Hillister, Texas, wants prices, for cash, on a logging locomotive in good condition.

Pitch and Tar Paper.—George Moxon, New Decatur, Ala., wants prices on tar and pitch paper.

Planing Mill.—Frank Randall, Olney, Mich., wants machinery for planing mill, including planer and matcher, weather board, resaw, etc.

Planing Mill, etc.—G. W. Lewis, Jr., Carthage, Tenn., wants prices on planing mill machinery and iron roofing.

Power Punch, etc.—The Casey Boiler Manufacturing Co., Chattanooga, Tenn., wants a power punch to punch 6-inch flue holes, one hydraulic riveting machine and a flanging machine.

Pumps.—Alex. K. Rarig & Co., Columbus, Ohio, want prices at Fort Payne, Ala., or Cincinnati, on two 16x10x12 inches duplex outside packed plunger pumps and two 8x5x12 inches duplex outside packed plunger pumps. The first two for tank and the others for boiler feed.

Rails.—The Tyler County Lumber Co., Hillister, Texas, wants prices, for cash, on 2½ miles of 25 to 35-pound rails for tram-road.

Sash, Door and Blind Factory, etc.—R. E. Hill, Abbeville, S. C., will want machinery for the manufacture of sash, doors, blinds, hubs, spokes and handles.

Saw Mill.—J. W. Griffin, Grenada, Miss., wants prices on machinery for a saw mill.

Saw Mill.—P. Wagnon, Ball Play, Ala., will probably purchase an edger, saw and other machinery for a saw mill.

Saws, Shafting, etc.—J. W. Tippet & Henson, Franklinville, N. C., want prices on saws, shafting, shuttle block, pulleys, etc., new and second-hand.

Screw.—J. A. Johnson, Windsor Station, Va., wants an auger like screw (wrought or cast) 10 feet long and 2 feet in diameter.

Shafting, Pulleys, etc.—The Vienna Improvement Co., Vienna, Ga., will purchase two rocks for grist mill; also shafting, pulleys, etc.

Shingle Mill.—The Wekiva Shingle Co., Gladesville, Fla., will purchase a 10-block chaffoner shingle machine, power boiler and 2 new splitting saws.

Shingle Mill, etc.—The Franklin Lumber Co., Franklin, Va., will purchase machinery for a shingle mill; also belting, shafting and pulleys.

Soap Factory.—W. H. Patterson, Flat Rock, S. C., wants prices on machinery for the manufacture of soap from cotton-seed oil and turpentine.

Spoke and Hub Factory.—J. W. Griffin, Grenada, Miss., wants prices on machinery for a spoke and hub factory.

Spoke and Spool Machinery.—The East Virginia Mineral & Warrenton Improvement Co.,

Warrenton, Va., wants prices on machinery for manufacturing spokes and spools.

Stave and Heading Machinery.—R. C. Strother, West Union, S. C., wants prices on machinery for manufacturing staves and headings for tight barrels; capacity 46 gallons.

Steam Heating Apparatus.—S. L. Leary, 5 E. Trade street, Charlotte, N. C., wants prices on steam heating apparatus for college buildings.

Stove Foundry.—The Richmond Stove Co., Richmond, Va., wants prices on a full line of machinery for a stove foundry.

Tram-road.—The Muskegon Lumber Co., Valdosta, Ga., wants prices on tram-road, rails, etc.

Vinegar Factory.—W. H. Patterson, Flat Rock, S. C., wants prices on machinery for a vinegar factory; also information about the business.

Water Works.—Machinery will be wanted at Oxford, N. C., for water works. F. B. Hays, city clerk, can give information.

Water Works.—E. W. Butler, mayor, Madison, Ga., wants propositions for the construction of water works system.

Well-boring Machinery.—H. Clay Armstrong, president, Auburn, Ala., may purchase additional well-boring machinery.

Wire Rope.—The Cherokee Talc Co., Murphy, N. C., wants prices on wire rope.

Woodworking Machinery.—The West Virginia Building Co., Keyser, W. Va., will purchase mortisers, tenoners, planers, molders, etc.

Woodworking Machinery.—The Virginia Building Co., Middletown, Va., will purchase a planer and matcher, band saws, universal woodworker and other machinery.

Woodworking Machinery.—J. B. Carr, Sumter, S. C., will want woodworking machinery.

Woodworking Machinery.—The Emory Planing Mill Co., Harriman, Tenn., will want machinery for a lumber mill and sash, door and blind factory.

Woodworking Machinery.—John F. Cripps, New Castle, Va., wants prices on woodworking machinery.

Woodworking Machinery.—C. J. Schelky, New Berne, N. C., will want planer and matcher, resaw, molder, gang ripper, etc.

Middlesborough's Sale.

The lot sales at Middlesborough last week were a stupendous success. In three days and a half over 700 lots were sold for an aggregate of \$1,019,099. The Middlesborough News in telling of the first day's sales says:

"The first lot sold was lot 10, in block 6, S. E. section; this is on Cumberland avenue, just beyond the hotel. It started at \$200 per foot and in a few seconds was knocked off at \$237.50. It was evident from the quickness with which this lot was knocked down that the company was determined to keep down prices if possible. And this opinion was confirmed as the sale went on, and the auctioneer knocked off the lots very much after the order of a boy knocking down persimmons. There was no halting, no by-play, no begging, but they just went right and left, in many instances on the second bid."

RECENTLY a number of the officials of the Missouri, Kansas & Texas Railroad, in company with officers of the Brazos Channel & Dock Co., inspected the jetty works of the latter company at the mouth of the Brazos river on the Texas Gulf coast, and the railroad people were surprised to find a depth across the bar of more than 14 feet at the shallowest point, and a depth of 27 to 30 feet between the jetties. The Brazos Co. is rapidly solving the problem of a deep-water harbor for the Southwest. The company expects to have a permanent depth of 20 feet by the fall.

THE Nolita Consolidated Marble, Iron & Talc Co., whose works are at Kinsey, near Murphy, N. C., is about to establish a plant five miles farther south. These works will be known as the Standard Marble Works, and will be similar in all respects to those at Kinsey. The company is also erecting a plant for mining and preparing talc for the market. A seventy horse-power engine with grinders, cyclone mills and other machinery are in position, and work will commence in a few days. The surrounding deposits of brown hematite iron ore will also be developed at an early date.

Hercules Ice Machines

FOR

Ice Making, Cold Storage, Packing Houses, Breweries, &c.

Send for our new illustrated circular.

Hercules Iron Works, - - - Chicago, Ill.

WATER POWER UTILIZED.

at any distance from source by ELECTRICAL TRANSMISSION. The simplest, cleanliest and cheapest to operate for Mining, Street Railways, Electric Lighting and Manufacturing.

G. S. VAN NUIS, Constructing Electrical Engineer,
74 CORTLANDT STREET, NEW YORK.

RAEDER, COFFIN & CROCKER,

ARCHITECTS

Rooms 916-919, 218 Lasalle Street, Chicago,

Special Designers of Industrial Plants.

Completely Equipped Shops, Foundries, Warehouses, Cotton and Woolen Mills, Grain Elevators, &c

HENRY RAEDER, Architect; A. S. COFFIN, B. S. CROCKER, Engineers.

O. R. MAKEPEACE & CO.
ARCHITECTS and MILL ENGINEERS
PROVIDENCE, R. I. Plans, Specifications and Estimates furnished for Cotton and Woolen Mills.LOCKWOOD, GREENE & CO.
Mill Architects and Engineers,
HAVE REMOVED TO
131 Devonshire Street, Boston, Mass.Mr. Stephen Greene will devote his personal attention to the management of the business.
Nier, Hartford & Mitchell,
ENGINEERS.Water Works, Sewerage, Electrical Works and Municipal Improvements.
Richardson Block, CHATTANOOGA, TENN.THE BROUGHTON
MIXER
FOR
Wall Plaster and Fertilizers.
MANUFACTURED BY
W. D. DUNNING,
96 W. Water St., Syracuse, N. Y.
SEND FOR CIRCULAR.The BOOMER & BOSCHERT
KNUCKLE JOINT
PRESS
FOR BALING
Cloth, Paper, Yarn, &c.
Or for any other purpose requiring great pressure.
BOOMER & BOSCHERT PRESS CO.
329 W. Water St. Syracuse, N. Y.DO YOU
BELIEVE
IN SIGNS.
JORY & CO.
Make Everything in
SIGNS
Baltimore & Light Sts.
BALTIMORE.DREW, BALDWIN & CO.
COTTON MILL
Architects and Engineers,
45 Broadway, New York.WRITE FOR PRICES TO
THE SOUTHERN EQUIPMENT CO.
Representing reliable manufacturers of
Railway, Mining and Mill Supplies.
ORDERS FILLED PROMPTLY.
Chattanooga, Tenn.D. C. GILES,
Electrical Engineer,
326 E. WATER ST., ELMIRA, N. Y.

Plans and Specifications of Electrical Installations and Construction of same superintended. Special Apparatus designed or perfected. Send for Folder.

GRAY & FITCH,
MILL ARCHITECTS & ENGINEERS,
264 Essex Street, Lawrence, Mass.

Plans executed for the best modern mill construction. Especial attention given to arrangements of power plants, shafting, etc.

Edwin F. Partridge, Pres.; Jos. W. Hawley V. Pres.; H. Bayard Hodge, Sec.; Wm. S. Perot, Jr., Treas.; Jos. S. Keen, Jr., General Manager.
The AMERICAN PIPE MFG. CO.
Phipps' Hydraulic Pipe a Specialty.
Engineers & Contractors for Water Works.
Solicit correspondence from towns wishing to build upon franchise plan. Factory, Germantown Junction; Office, Room 24, 1326 Chestnut St., Phila.KNOXVILLE, TENN.
Room 10, City Hall. P. O. Box 21.
WRIGHT & WOOD,
Civil & Sanitary Engineers.
Sewerage, Drainage, Water Supply, Municipal Work, Surveys, Estimates, Specifications, Superintendence.
J. C. WRIGHT, C. E. C. F. WOOD, Jun. Am. Soc. C. E.STEIN & SCHWARZ,
Complete Blast Furnace Plants.
Acid or Basic Bessemer and Open Hearth Steel Works.
Plans, Specifications, Estimates and Superintendence of Construction.
Technical Reports on Machinery and Manufacturing Processes.
323 Walnut Street, Philadelphia, Pa.OTTEN & WESTENHOFF,
Analytical & Consulting Chemists.
Chemical Analysis of Iron Ore, Pig Iron, Steel, Limestone, Coal, Mineral Waters, Fertilizers, &c. Materials and Lubricating and Illuminating Oils, etc. Examination of Mining Properties.
Office and Laboratory, 17 W. Third St., Cincinnati, O.J. H. PRATT,
ANALYTICAL CHEMIST & MINING ENGINEER
1826 Third Avenue, Birmingham, Ala.
Chemical Investigations, Analyses of Ores, Slags, Coals, Waters, &c. Reports on Mineral Properties, &c. Correspondence solicited.STEAM DREDGERS,
PILE DRIVERS.
VULCAN IRON WORKS, Chicago.
Send for our 1890 catalogue.

PROPOSALS.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 3 o'clock P. M., on the 21st day of June, 1890, for the erection and completion (except approaches and heating apparatus) of the U. S. Courthouse and Postoffice building at Statesville, N. C., in accordance with drawings and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$500. The Department will reject all bids received after the time fixed for opening the same; also bids which do not comply strictly with all the requirements of this invitation. Bids must be enclosed in an envelope sealed and indorsed "Proposal for the erection and completion (except approaches and heating apparatus) for the U. S. Courthouse and Postoffice building at Statesville, N. C." and addressed to JAS. H. WINDRIM, Supervising Architect. May 28th, 1890.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 3 o'clock P. M., on the 14th day of June, 1890, for all the labor and materials required to build complete the basement and area walls and retaining walls of the U. S. Courthouse, Postoffice, &c., building at Detroit, Mich., including trench excavation, concrete foundations, footings, etc., complete, in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$500. The Department will reject all bids received after the time fixed for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be sealed and endorsed "proposal for basement and area walls, etc., for the U. S. Courthouse, Postoffice, &c., building at Detroit, Mich.," and addressed to JAS. H. WINDRIM, Supervising Architect. May 22d, 1890.

PROPOSALS FOR MAIL-BAG CORD-FASTENERS.

POST OFFICE DEPARTMENT,
WASHINGTON, D. C., May 1, 1890.
SEPARATE SEALED PROPOSALS from patentees or their assignees will be received at this Department until noon on the twenty-ninth day of July, 1890, as follows:
Proposals for furnishing mail-bag cord-fasteners for use by the Post Office Department: Said proposals to state the amount of royalty, if any, charged for patent device, price at which patent device, if any, will be conveyed to the Government, and also price at which said mail-bag cord-fastener will be furnished complete, including royalty.
Proposals must be in accordance with the specifications and forms of proposals, which will be furnished on application by letter to the Second Assistant Postmaster General.
The contracts which may be made will be in conformity to the specifications and the accepted proposals.
The right is reserved to reject any or all the proposals.
JOHN WANAMAKER,
Postmaster General.

FOR SALE. 450 Acres of Fine Timbered AND FARMING LANDS

On Twelve-Mile River, one mile by survey from Atlanta & Charlotte Railway, in the county of Pickens. ONE OF THE FINEST AND MOST ACCESSIBLE WATER POWERS IN THE STATE OF SOUTH CAROLINA. A fine opportunity for manufacturers. Railway guarantee of road to the falls on the river. Address

WHITNER SYMMES, OWNER,
Greenville, S. C.

MINERALS ON THE FARM.

[1890.]

REVISED

POCKET GEOLOGIST AND MINERALOGIST, OR Sixteen Practical Chapters

- I.—Bottom Facts and Bed Rocks.
- II.—The Coal Measures.
- III.—Oil and Gas.
- IV.—Iron and Manganese Ores.
- V.—Gold and Silver Ores.
- VI.—Copper and Tin Ores.
- VII.—Lead and Zinc Ores.
- VIII.—Nickel, Cobalt and Chrome Ores.
- IX.—Antimony, Mercury, Platinum, &c.
- X.—Gems and Precious Stones.
- XI.—Ornamental and Building Stones.
- XII.—Cement and Clays.
- XIII.—Salts and Fertilizers.
- XIV.—Mineral Paints.
- XV.—Grits and Spars.
- XVI.—Other Valuable Minerals.

212 Pages—Cloth Bound—Pocket and Flap.

Price One Dollar, post paid.

FREDERICK H. SMITH,
Engineer and Geologist,
227 E. German Street, - - Baltimore, Md.

WANTS.

NOTICE.

Wanted the best MACHINE FOR EXTRACTING GREASE FROM BONES. Address "BOX 40," Raleigh, North Carolina.

Cotton Seed Oil Mills

We are making various sizes from the Plantation Mills of 3 tons to the large city mill of 50 tons per day. Our mills have all the latest modern improvements in machinery, and produce the very best results. Send for circular.

CARDWELL MACHINE CO., Richmond, Va.

Textile Machinery

Picking, Carding, Roving, Spinning, Spooling, Twisting, Reeling, Winding, Weaving and Finishing for Cotton and Woolen Mills. Very large stock to select from in our storehouses here, of over two acres of floorage.

JEREMIAH CLARK,
Lowell, Mass. Office, 63 Dutton St.

FOR SALE.

A Rolling Mill Plant,

well equipped for making merchant iron, spikes and rails; finely located; good site at a bargain, or for lease. For full particulars apply to
PORTER, POLLARD & RUBY,
Houston, Texas.

FOR SALE.

Foundry & Machine Shop, PATTERNS, &c.

1 1/4 acres of ground, centrally located in city. Ready established trade. Three railroads running within 50 yards. To be sold for a division, on account of the death of both partners. Full particulars will be furnished to enquiring parties by writing to

MURRAY & STEVENSON,
P. O. Box 346. ANNISTON, ALA.

For Sale at a Bargain.

The plant of the CALDWELL PRINTING COMPANY at Birmingham, Ala., consisting of 3 Cylinder Presses and 5 Jobbers, Bindery, Type, etc., making

A COMPLETE MODERN

Printing Establishment.

Most of machinery, type and bindery bought in the past three years. Will be sold at

50 CENTS ON THE DOLLAR.

This is one of the largest plants in the South and the largest in Birmingham, there being only two other offices in the city.

Other business interests of the proprietors necessitates an immediate sale. This is positively the best opportunity ever offered. For particulars address

C. H. CALDWELL, Pres.
Drawer 850. Birmingham, Ala.

POPULAR AND DIRECT ROUTE.

THE BAY LINE

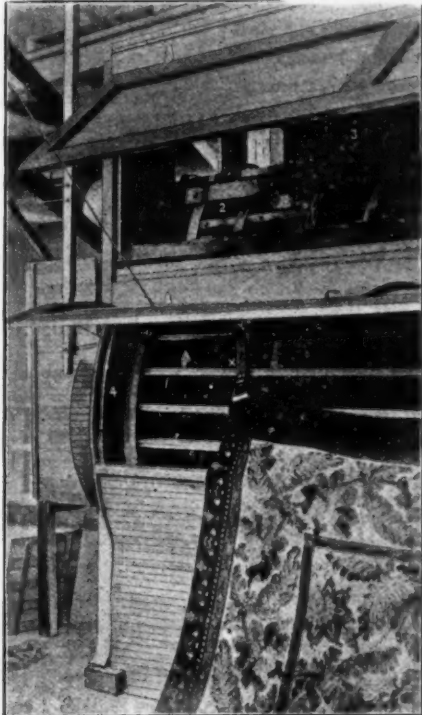
For Old Point Comfort, Norfolk and the South.

Steamers leave daily (except Sunday) Union Dock 6.30 P. M., Canton Wharf 7 P. M.; arrives Old Point Comfort 7 A. M., at Norfolk at 8 A. M., Portsmouth 8.15 A. M. At OLD POINT COMFORT connect with CHESAPEAKE & OHIO RAILROAD for Richmond, Charlottesville, Greenbrier, White Sulphur Springs, Louisville, Cincinnati and all points West. At NORFOLK connect with NORFOLK & WESTERN RAILROAD for Petersburg, Richmond, Lynchburg, Roanoke, Bristol, Knoxville, Chattanooga, Memphis and the Southwest; also with the NORFOLK SOUTHERN RAILROAD for Elizabeth City, Edenton and Eastern North Carolina. At PORTSMOUTH, VA., with SEABOARD & ROANOKE RAILROAD for Weldon, Raleigh, Southern Pines, Charlotte, Fayetteville, Newbern, Wilmington, Charleston, Columbia, Augusta, Savannah, Jacksonville and all PRINCIPAL Southern Cities.
Palace Steamers, Unsurpassed Cuisine, Undisturbed Night's Rest. Suez Connection.
For Tickets and information apply at Company's Office, 129 N. Baltimore St. or on board steamer.
E. BROWN, G. T. A. General Ticket Agent.

Peerless Carpet Beater.

To operate this machine the carpet is fastened with three or more clamps to the revolving bed. Then the two beater arms are set in motion by belt from loose pulley to driving pulley. As the carpet is revolving upon the drum with the nap or dusty

versed. The dies crush uniformly all the way down. It reduces to any required ring gauge free from dust. It is suitable for iron ore, macadam, railroad ballast, glass, crucible, brick, clay and pottery works, fertilizers, limestone, phosphates, chemicals, iron ore for fix, ganister, emery, coke, coal, talc, chrome mines, baryta,

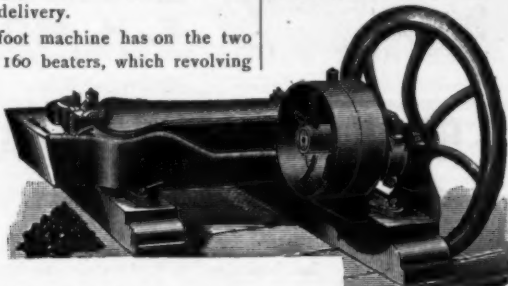


THE PEERLESS CARPET BEATER.

side inside, a suction fan has full control of all the dirt and dust as it is being loosened from the fabric. When cleaned the carpet is simply unwound and folded and is ready for delivery.

A twenty-foot machine has on the two beater arms 160 beaters, which revolving

manganese, soapstone, quartz, gold, silver, copper and lead mining, granites, furnace slag, coprolites, fossils, flints, pyrites, rock salt, calcined bones, coal.



FORSTER'S PATENT ROCK AND IRON ORE BREAKER.

at the rate of 200 per minute give the carpet 32,000 effective but not injurious strokes every minute. One man and a boy can easily operate the machine, and do all work, and turn out from 2,000 to 2,500 yards per diem without exerting themselves. The machine is adapted to do all kinds of work—from the coarsest to the most delicate of fabrics.

The power required is five horse-power. The machine can be operated in a room 20x20 feet and 10 feet high. Manufactured by A. B. Collen, P. O. Box 490, New York city.

Rock Breaker.

One of the great needs of the South is better country roads, and one of the best appliances for preparing road material is the machine illustrated on this page, Forster's patent rock breaker. The movement in the dies of the Forster rock breaker is peculiar to this machine. The dies do not crush the stone by a direct jam, but "nip" it, producing a fracture like a hand hammer, leaving the broken pieces just as solid as the original rock. There is nothing about the machine to easily get out of order, and it requires but little skill to run it. Owing to its great power of leverage, it can be operated by ordinary horse-powers. When the crusher is properly fed the dies wear uniformly throughout their entire length, and do not need to be re-

Further information concerning the machine may be had from the manufacturers, Totten & Hogg Iron & Steel Foundry Co., Pittsburgh, Pa.

WM. SIMPKIN A. S. M. E.

SIMPKIN & HILLYER, ENGINEERS and CONTRACTORS RICHMOND, VA.

Manufacturers of and Agents for Steam Engines, Boilers, Pumps and Heavy Machinery. Economical Steam Plants, Rope and Belt Driving. Special Machinery for Chemical and Fertilizing Works, Gas, Water and Cresosote Works. A specialty of the "Warwick" Pole Road Locomotive, "Warwick" Tram Road Locomotive, and the "Warwick" Silent Steam Street Motor. Castings furnished. Repair work solicited. Consultations, Arbitrations and Valuations. Engines indicated. Plans, Specifications and Estimates prepared. Correspondence invited.

WORKS—Newport News, Va.

GENERAL OFFICE—1105 Main St., Richmond, Va.

SEND ALL REPAIRS TO OUR WORKS.

HERMANN SCHMIDT, President.

R. F. HUDSON, Secretary and Treasurer.

W. SIMPKIN, Vice-President and Gen. Agent.

THE RICHMOND ICE-MACHINE CO.

Manufacturers of the Most Improved

RICHMOND, VA.

Ice-Making and Refrigerating Machinery

ON THE COMPRESSION PLAN.

We guarantee the proper working of our machinery. All working parts built to gauge, so they can be readily duplicated, and nothing but the very best material used. Specifications and estimates furnished. Correspondence solicited.

P. O. Box 315.

GENERAL OFFICE 1105 MAIN STREET, RICHMOND, VA.

Send for our Pamphlet "How to Make an Ice Factory Pay."

OFFICE,

NO. 226 GREENWICH STREET.

E. J. WOOD, ESQ.

NEW YORK, February 21st, 1890.

Dear Sir—Referring to your inquiry as to the running of the engine, boiler and other machinery put into the building, No. 19 Hudson Street, New York City, by you I find that you have made a saving in fuel of about 66 per cent. The cost of running for fuel was \$55 and now is \$17. We are much pleased with the change and you have our permission to refer to us at any time. Yours truly,

A. O. HIGHAM.

JACQUES KAHN,

IMPORTER AND MANUFACTURER OF
FRENCH MIRROR PLATES AND VENETIAN CRYSMATIC GLASS,
27, 29 AND 31 BLEECKER STREET.

NEW YORK, February 6th, 1890.

MR. E. J. WOOD, 243 Broadway, New York.

Dear Sir—It affords me pleasure in stating that the engine and machinery, which you have furnished and set in my building has unquestionably given, thus far, better satisfaction than any I have ever seen or used. Should you have occasion you may at any time refer to me and I shall be pleased to show its merits to anyone you may choose to send to investigate.

Yours truly,

(Signed) JACQUES KAHN.

OFFICE OF BOETTGER & HINZE, SILK FINISHERS,
NO. 32 MERCER STREET.

NEW YORK, April 11th, 1889.

MR. E. J. WOOD, 243 Broadway, City.

Dear Sir—Answering your inquiry as to the success of our steam plant, erected by you, we would say that the whole of the work is more than satisfactory, it is successful beyond our highest anticipations in first costs, steadiness of power, and economy of fuel. We take pleasure in being able after several months running to say that the plant is complete in every particular, and will be pleased to have you refer to us.

Yours respectfully,

(Signed) BOETTGER & HINZE.

SECTIONAL
INSULATED AIR

COVERINGS

For PIPES, BOILERS, DRUMS and all
other hot or cold surfaces. ASBESTOS CE-
MENT, PACKING, SHEATHING, &c.

SHIELDS & BROWN CO. 143 Worth St., NEW YORK. 240 and 242 Randolph St., CHICAGO.

THIS SPACE RESERVED FOR THE

PULSOMETER STEAM PUMP CO.

120 Liberty Street, New York.

Send for Illustrated Catalogue "F."

Improved Screw Cutting
FOOT AND POWER LATHES

Drill Presses, Shapers, Band, Circular and Scroll
Saws, Machinists' Tools and Supplies. Lathes
on trial. Catalogue mailed on application.

THE SEBASTIAN-MAY CO.

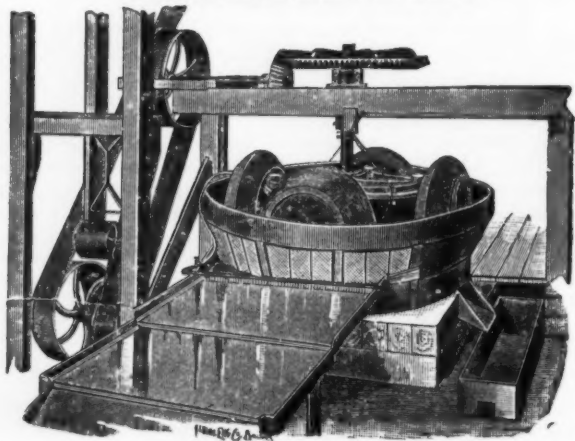
182 West Second St., CINCINNATI, O.



* WISWELL *

Ore Pulverizer and Amalgamator

COMBINED.



The following testimonial from Mr. Marsden, of the firm of Farrel & Marsden, manufacturers of Stone Breakers and Ore Crushers, Ansonia, Conn., speaks volumes for the Wiswell Mill:

Wiswell Electric Mining Machinery Co.:

GENTLEMEN—After carefully inspecting your mill and seeing it in operation, I do not hesitate to say that it is one of the best, if not the best pulverizer and most complete gold-saving machine I have ever seen. Please accept congratulations for your success.

S. L. MARSDEN.

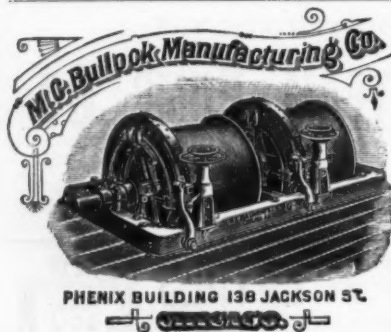
WE FURNISH A COMPLETE MILL FOR \$2,500, DELIVERED ON BOARD CARS.

FOR FURTHER INFORMATION ADDRESS

Wiswell Electric Mining Machinery Company,
4 POSTOFFICE SQUARE,

A. A. REEVE, Treasurer.

BOSTON, MASS.



PHENIX BUILDING 138 JACKSON ST.

Lane's Band Friction Single and Double Cylinder

PORTABLE HOISTS

STANDARD DRUMS,
Winze Hoists, Exploring Hoists,
Wire Rope Haulage Machines,
ORE BUCKETS, SKIPS,
CAGES AND SHEAVES,
STEAM PUMPS, BOILERS, Etc.

Bullock's Diamond Prospecting Core Drills,

For Surfaces or Underground Prospecting. No Restrictions as to Use.

THE ONLY RELIABLE DIAMOND DRILL MADE.

Improved Corliss Engine, Slide Valve and Straight Line Engines,
Eclipse Rock Drills, Air Compressors and Quarrying Machines.

WRITE FOR WHAT YOU WANT.

Cable Address, BULLOCK, CHICAGO.

THE Wardwell Stone Channeling AND Quarrying Machine.

WILL pay for itself in a short time in reduced cost of getting out Stone. Has no equal for efficiency and economy of operation. Pronounced by those who have used it the best machine for the purpose in the world. Send for illustrated catalogue, with full descriptions and letters from parties now using the machines.

Steam Stone Cutter Co.
RUTLAND, VERMONT.



SULLIVAN DIAMOND Prospecting Core Drills.

THE MOST RELIABLE AND
SATISFACTORY MADE FOR PROSPECTING FROM THE
SURFACE OR UNDER GROUND.

RAPID! ACCURATE! ECONOMICAL!



"N" Drill—Capacity 2,000 feet.

SPECIALLY ADAPTED TO SOUTHERN COAL AND IRON FORMATIONS.

Hand or Power Drills,

Capacities 300 to 4,000 feet. All sizes in stock.

SEND FOR CATALOGUE.

**Sullivan Diamond-Pointed and Steel
Cang Quarrying Machinery,
Steam Pumps, Boilers.**



M Hand Drill—Capacity 300 ft.

Contractors for prospecting mineral lands with the
Diamond Core Drill.

DIAMOND PROSPECTING CO.

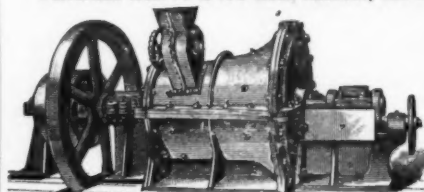
15 and 17 N. Clinton Street,

Eastern Office, 18 Broadway, New York.
Cable Address, "DIAMOND, CHICAGO."

CHICAGO, ILL.

The Greatest Pulverizer in the World.

Pulverizes from 10 to 160 mesh fineness, and has a capacity of 1 to 3 tons per hour.



For pulverizing Phosphates, Plumbago, Cement, Foundry Facings, Iron for Paints, Gold and Silver Ores, Flint Rock for Glass, Coke for Carbons, Palms, Asphalt Materials, Feldspar, Red Ochre, Sandstone, Limestone and Calcined Lime. Correspondence solicited. Send for samples of different products.

F. H. MOORE,
Manufacturer,

48 City Hall Bldg., Cleveland, O.

GATES ROCK AND ORE BREAKER.



CAPACITY IN TONS OF 2,000 POUNDS.

Size 0—2 to 4 tons per hour.	Size 4—15 to 30 tons per hour.
" 1—4 to 8 "	" 5—25 to 40 "
" 2—8 to 12 "	" 6—30 to 60 "
" 3—10 to 20 "	" 7—40 to 75 "
	" 8—100 to 150 "

Feeding 3-4 in. ring, according to character and hardness of material.
Great SAVING IN POWER. Adjustable to any Degree of Fineness.
The principle involved in this Breaker acknowledged to be the greatest success ever introduced into Stonebreaking Machinery. The Gates Breaker has made more railroad ballast and road metal than all other kinds of breakers combined.

Universally Adopted by Mining Companies.
Many Hundreds Used by Railway Companies.
Will furnish a thousand references from Contractors, Street Superintendents, Mines, Cement Manufacturers, etc., etc.

ALSO MANUFACTURE

The Cornish Rolls Pulverizer.

Fine Crushing Plants, Concentrators
and other Mining Machinery.

Address for Catalogue,

73a Queen Victoria Street, LONDON.
12 Cortland Street, NEW YORK.

GATES IRON WORKS,

50 H South Clinton St., CHICAGO.

215 Franklin Street, Boston, Mass.



WILLIAMSPORT WIRE ROPE CO.

MANUFACTURERS OF

Iron, Steel and Galvanized

WIRE ROPE

STREET CABLES A SPECIALTY.

WILLIAMSPORT, PA.

Correspondence Solicited with Southern Coal and Quarry Companies.

Lincoln Iron Works. Machinery
RUTLAND, VT. For working Marble, Stone and Wood Shafting,
Pulleys and Gearing. Send for Catalogue.

STEDMAN'S IMPROVED DISINTEGRATOR AND PULVERIZER.

FOR GRINDING, CRUSHING OR DISINTEGRATING (FINE AS FLOUR)

PHOSPHATE, BONE (GREEN, DRY AND STEAMED) & GUANO FOR FERTILIZERS.

IRON ORE. Tankage, Bone-Ash, Salt Cake, Soda, Cracklings,
OYSTER SHELLS. Animal Matter, Plastic Clay, Asbestos,
Coal and Plumbago for Foundry Facings.

Flint Rock for glass, Coke for carbons, Paints, Asphalt Materials,
Stone, Lime and any Material for Drugs.

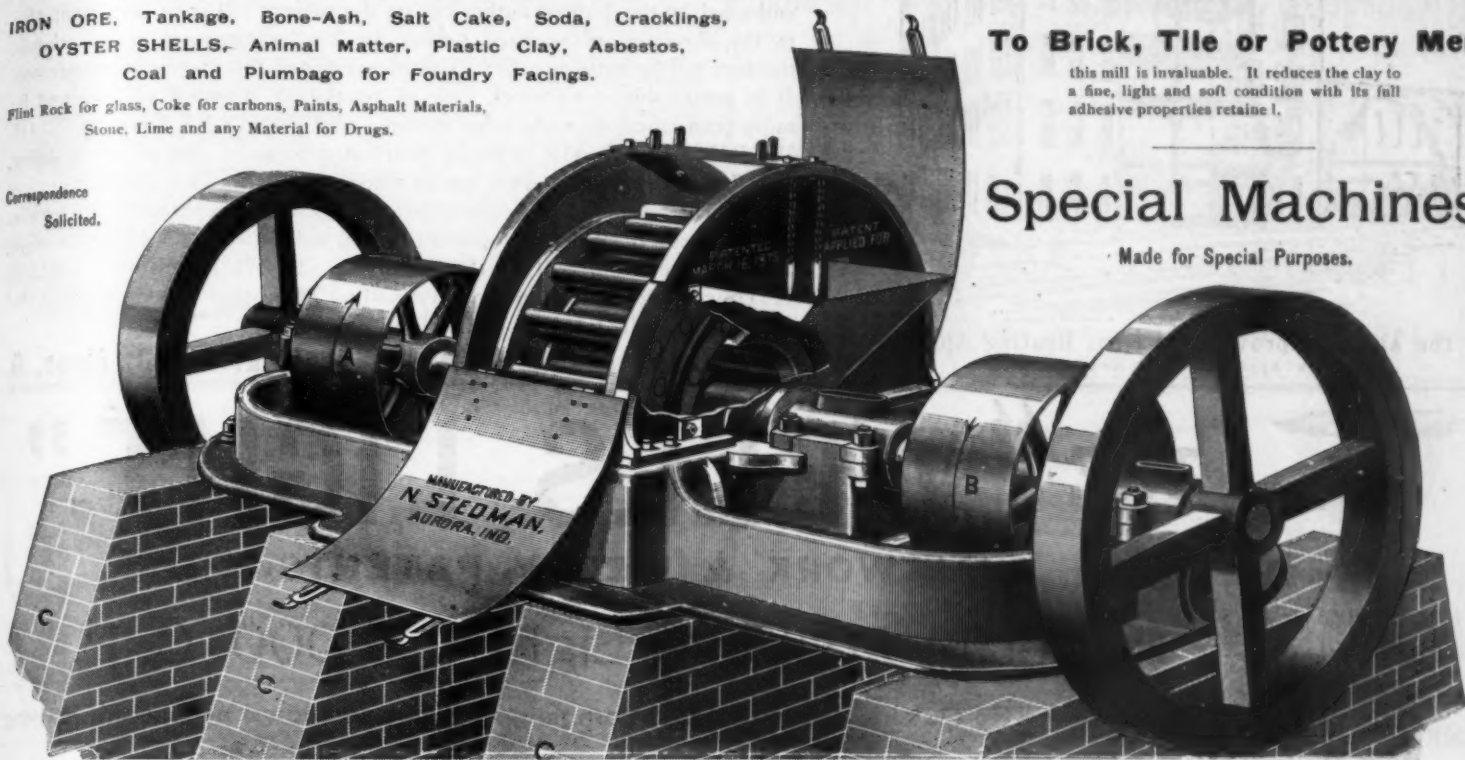
Correspondence
Solicited.

To Brick, Tile or Pottery Men

this mill is invaluable. It reduces the clay to
a fine, light and soft condition with its full
adhesive properties retained.

Special Machines

Made for Special Purposes.



A good Disintegrator and Pulverizer is a long-felt want in many branches of business. This Mill is an improvement over any yet made and is the result of practical experience. It is made in three sizes—34, 40 and 48 inches. The capacity for clay is as follows: 34-inch Mill will pulverize for from 15,000 to 25,000 brick per day; 40-inch Mill will pulverize for from 20,000 to 35,000 brick per day; 48-inch Mill will pulverize for from 75,000 to 100,000 brick per day. For prices and further information address

STEDMAN'S FOUNDRY & MACHINE WORKS,

PROTECTED BY PATENTS.

MENTION MANUFACTURERS' RECORD.

AURORA, IND.

DAVIDS' PATENT DISINTEGRATING MILL

For Bones, Phosphates, Tankage, Ores, Clay, Fish Scrap, Salt Cake, &c.
Fertilizer Machinery, Mixers' Rolls, Breakers, &c., &c. Marine
Railways, Clay Temperers. Send for Catalogue.

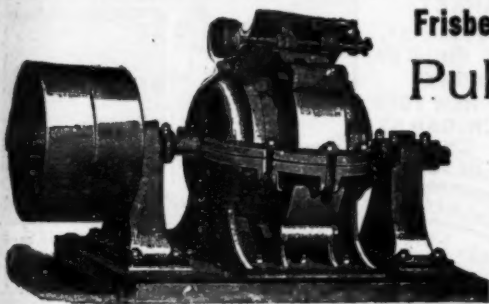
JAMES MURRAY & SON. 102 to 108 York Street, Baltimore. Md

McLANAHAN & STONE, Engineers and Manufacturers,
GAYSPORT FOUNDRY, HOLLIDAYSBURG PA.

Blast Furnace, Rolling Mill and Heavy Castings and Machinery for all purposes.

ORE JIGS, IMPROVED ORE WASHERS,

with Revolving Screens and Picking Tables.
Elevators and Conveyors, Etc.
Complete Plants for washing HEMATITE ORES at Least Cost.



Frisbee Lucop Mills for Pulverizing.

At half the cost of that by
Buhr Stones. Used by leading
Cement and Fertilizer Manu-
facturers. Finished Product.
No Tailings. Capacity up to
3 tons per hour. Record of
constant use for 6 years.

FRISBEE LUCOP MILL CO.
145 Broadway, New York.

F. H. C. MEY,

Chain Belting Engineering Works,

APPROVED APPLIANCES FOR
Elevating, Conveying and Transmis-
sion of Power.

Saw Mill, Lumber and all Woodworking Machinery,
Sawdust, Slabs, Refuse, Lumber, Logs, etc., Grain Coal,
Coke, Stone, Clay, Phosphate, Chemicals & Fertilizers.

May Detachable Chain Belt, Patented Feb. 7, 1888.

FOR PROPELLING STEAMBOATS, TRACTION ENGINES.

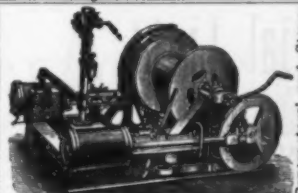
PATENTEE AND MANUFACTURER,

64 to 68 Columbia Street, Buffalo, N. Y.

Send for Catalogue.

Subscribe to the MANUFACTURERS' RECORD

Price \$4.00 a year or 6 months for \$2.00



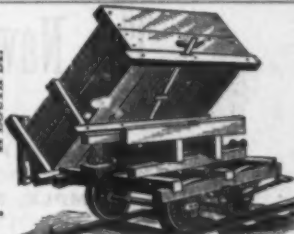
Manufactured by RYAN-McDONALD MFG. CO.

Shops and Warehouses, WATERLOO, N. Y.

Send for Illustrated Catalogue and Prices.

Contractors' and Steam
Shovel Cars, Derrick Fix-
tures, Hoisting Drums,
Excavators, Hoisting Drums,
Stationary and Portable
Engines, Boilers, Light
Locomotives, etc.

OFFICES:
WATERLOO, N. Y., No. 14
BALTIMORE, MD., No. 14
44 SOUTH ST.



Webster, Camp & Lane Machine Co.

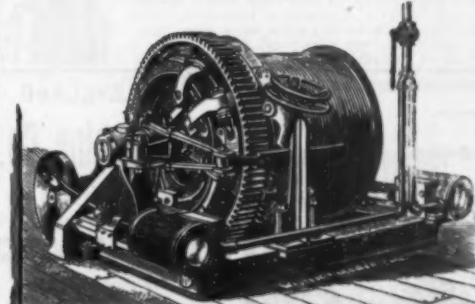
BAND FRICTION HOISTS.

Endless and Tail Rope
Haulage Engines for

COAL MINES.

Automatic and Slide Valve
Steam Engines, Boilers,
Pumping Plants, Ca-
ses, Ore Cars,
Sheaves, etc.

AKRON, O.



BACON

Winding Engines,
Furnace Hoists,
Mine Hoists.

(WITH OR WITHOUT BOILERS.)

"MINING PLANTS," CONCENTRATING WORKS, AND DREDGING
MACHINERY FURNISHED COMPLETE.

COPELAND & BACON,

85 Liberty St., New York.

535 Arch Street, Philadelphia.

REFERENCES:
Croton Magnetic Iron Mines, Brewsters N. Y.
Croton Point Iron Co., Crown Point, N. Y.
Belvidere Iron Co., 53 Broadway, N. Y.
See Island Chemical Co., Beaufort S. C.





The Akron Improved Hot Blast Heating Apparatus.
As Applied to Factory Buildings.

A Word About Heating and Ventilation of Buildings.

The value of a good indirect heating plant when supplied by forced circulation is difficult to appreciate by those who have not drawn comparisons, or made the subject a study. This system is not an experiment, and is endorsed by the highest authorities on the subject. It is an important step in the direction of sanitary reform for heating factories, mills, schools, theaters, public buildings, &c. The advantages of this system are numerous. It is practicable, convenient, easy of regulation, compact, cleanly and far more economical than any other system. A CONSTANT CURRENT OF WARM, FRESH AIR is evenly distributed to every part of the building, and the air is changed every ten or fifteen minutes. This same system of heating can be made a perfect ventilator, and should be considered by owners and projectors. We are prepared to equip mills complete with this system, and guarantee results. Our HOT BLAST STEAM HEATING APPARATUS costs less than the ordinary method of heating by steam pipes and radiators. Write for catalogue and full particulars.

The AKRON HEATING & VENTILATING CO., Akron, O.



THE "WELLS LIGHT."

WALLWORK & WELLS' PATENTS. (Registered Title.)

Powerful Portable Light ^{UP} TO 2,000 C. P.

Self Contained. No Outside Motive Used. Complete in Itself, as shown by Accompanying Cut. Simple in Construction. Any Laborer can handle it.

3,000 SOLD LAST SEASON.

UNAFFECTED BY WEATHER.

FOR FULL INFORMATION
APPLY TO

KEEGAN & HALPIN,

44 & 46 Washington St.,
NEW YORK.



The New Industrial Light "Lucigen"

BRILLIANT, POWERFUL AND DIFFUSIVE.

Burns Petroleum Oil Sprayed by Compressed Air.

SIMPLE, SAFE AND ECONOMICAL.

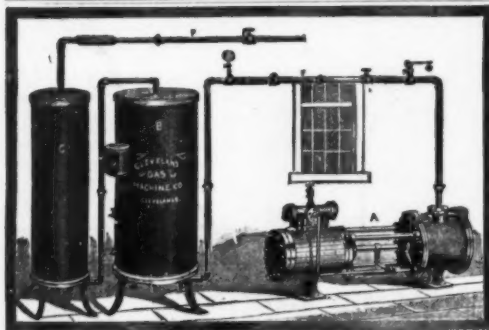
Thousands in use in Iron Works, Machine Shops, Railroad Yards, etc., etc., in Europe and in the United States.

Lamps and Burners from 200 to 10,000 Candle Power.

MANUFACTURED BY THE

INDUSTRIAL LIGHT COMPANY,
196 Temple Court, New York City.

AUTHORIZED REPRESENTATIVES—Rand Drill Company, New York City; Buffalo Engineering Co., 228 Pearl Street, Buffalo, N. Y.; W. H. Carruthers & Co., Chamber of Commerce Building, St. Louis, Mo.; Joseph Parks, Bay View, Milwaukee, Wis.; Isaac Reynolds, 5 Euclid Avenue, Cleveland, Ohio; Parvin & Co., 133 S. Fourth Street, Philadelphia, Pa.



THE CLEVELAND Gas Machine Co.

176 Central Way, CLEVELAND, O.

MANUFACTURERS OF

IMPROVED GAS MACHINES

For Illuminating and Heating

purposes. Especially adapted for Can-
ning Factories, Mills, Churches and
Stores; Country and Suburban Resi-
dences requiring from 20 to 1,000
lights; also Gas-Soldering and Metal
Heating Outfits and Special Machines
for Meat Packing Establishments.
Correspondence solicited. Send for
illustrated circular.

SAVE GAS. REDUCE BILLS AND SECURE BETTER LIGHT.

The American Gas Saving Co's Gas Controller.

Over 200,000 in use. Saves from 15 to 50 per cent. according to pressure in mains.

Adopted by U. S. Government after competitive tests; New York Elevated Railroad (saving \$11,519.37 in five months, over \$100,000.00 in five years). In use in thousands of Mills, Factories, Hotels, D. pots, Public Buildings and Private Houses. Send for descriptive circular and testimonials. Find size of meter on brass plate in front with maker's name.

Full directions for attachment and testing sent with each. Controllers sent for trial on receipt of price, and money refunded, less express charges, if unsatisfactory and controllers returned in good order. All orders C. O. D. Agents wanted.

AMERICAN GAS SAVING CO., - - - 35 Broadway, N.Y.

PENNSYLVANIA GLOBE GAS LIGHT CO.

SOLE MANUFACTURERS OF THE
**IMPROVED ROYAL AND
ELKINS GAS MACHINE**

**THE BEST IN THE
MARKET**

22 TO 28 SO 15TH ST.
PHILA'DA.
115 BROADWAY
NEW YORK
195 MICHIGAN ST.
CHICAGO.

NAPHTHA & GASOLINE
KINDS OF GAS MACHINES

CONTRACTORS FOR LIGHTING CITIES
AND TOWNS WITH THEIR RENOWNED SYSTEM OF
SELF-GENERATING GAS LAMPS OVER 50,000 IN USE

FOR ALL

Miller Safe & Iron Works,

MANUFACTURERS OF

FIRE AND BURGLAR-PROOF

SAFES.

33 Years' Record and no Failures.

23,000 NOW IN USE AND

TESTED IN OVER 300 FIRES.

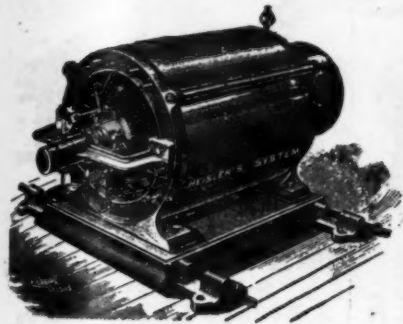


Salesroom, 24 W. Baltimore Street, Baltimore, Md.

Factory, South Baltimore.

THE HEISLER PATENT Long Distance Incandescent Electric Light System.

UNEQUALLED FOR DISTRIBUTION OVER WIDE AREAS.



SPECIALY ADAPTED FOR STREET, COMMERCIAL & DOMESTIC ILLUMINATION FROM CENTRAL STATIONS.

Plant may be located where power can be secured cheapest, even if miles distant from the lighting. Safety, Reliability, and Financial Success fully demonstrated. Plan of Wiring the Simplest, Cheapest and most Efficient. Strictly Series. Noted for the Brilliance and Beauty of the Light. Lamps, 10 to 100 Candle Power; Long Life without Blackening. Dynamo Self-contained and perfectly Automatic.

Heisler Electric Light Company,

809 to 817 South Seventh Street, ST. LOUIS, MO.

"Awarded the Highest Distinction—a Gold Medal—by the International Jury at the Universal Exposition, Paris, 1889."

Send for Circulars.

Correspondence Solicited.

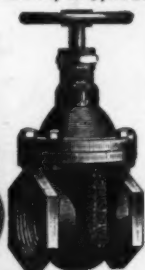
LUDLOW VALVE MFG. CO.

Office and Works: 938 to 954 River St., and 67 to 83 Vall Ave., Troy, N. Y.

VALVES

Double and Single Gate, 1/4 inch to 48 inch.; outside and inside Screws, Indicators, etc., for Gas, Water, Steam, Oil.

SEND FOR CIRCULAR.



Also Fire Hydrants. Yard and Wash Hydrants. Check and Foot Valves.

The Mather Electric Co.

MANCHESTER, CONN.

Isolated Electric Light Plants a Specialty.



Mather Dynamos are Simple in Construction, Automatic in Regulation, and Superior in Efficiency.

Mather Dynamos, Mather Motors,

PERKINS INCANDESCENT LAMPS.

Perkins' lamps are made to fit the sockets of any system. It is a very superior lamp for brilliancy, discoloration and efficiency.

W. A. WRIGHT,

General Southern Agent,

Office and Permanent Address, GREENVILLE, S. C.

Correspondence Solicited.



TRANSMISSION
OF POWER.



Machinery for Handling any Material in Bulk or in Packages.

The Link-Belt Engineering Company,

NEW YORK 49 Dey Street.

Nicetown, PHILADELPHIA, PA.

Successors to BURR & DODGE, PHILADELPHIA,

AND

EASTERN BRANCH LINK-BELT MACHINERY CO.

New York.

EWART DETACHABLE LINK-BELTING,

DODGE CABLE CHAIN

ELEVATORS. CONVEYORS. LINK DRIVING BELTS.

FOR INCANDESCENT LIGHTING

For Central Stations and Isolated Plants

THE THOMSON-HOUSTON DIRECT CURRENT APPARATUS HAS NO EQUAL.

The Dynamos are Automatic in Regulation under all changes in load, and in Mechanical Design and Construction have points of excellence not found in those of other systems. The Lamps are Durable and Efficient, and under repeated tests have burned three times their guaranteed life without blackening of the bulb or diminution of the candle power.

CATALOGUE AND ESTIMATES UPON APPLICATION!

THE THOMSON-HOUSTON ELECTRIC CO.

820 Atlantic Avenue, BOSTON, MASS.

148 Michigan Avenue, CHICAGO, ILL.

Wall and Loyd Streets. ATLANTA, GA.

403-405 Sibley St., ST. PAUL, MINN.

TRADE NOTES.

THE Maslin Machine Works, engineers and machinists at Jersey City, N. J., have dropped the word "pulsator" in mentioning their steam pump. This is not because any change has been made in the pump, but because the word "pulsator" is associated with an old model pump, which seems to have been confounded with the Maslin. The Maslin pump is still up to its old standard.

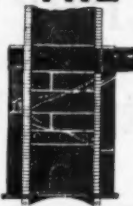
We call the attention of our readers to the advertisement of the Nubian Iron Enamel Co. in this issue. This company, by making an exclusive specialty of the manufacture of black varnish and guaranteeing every gallon of goods they send out to give their customers satisfaction, or all freight, cartage, etc., to be refunded, has built up a very large business with the largest consumers in this line, who, from experience, should be competent judges. We would advise those interested to correspond with them and see what they have to say further.

THE Texas & Pacific, one of the Gould roads, is being improved in many ways to equal in every respect its first-class connections. Col. Grant has just increased the passenger equipment with 12 splendid coaches, which have been built at their Marshall shops. These coaches have all modern improvements, among which are the Scarritt seats. Mr. Minton, M. C. B., takes special pride in these his special design. This is the same seat which was furnished the I. & C. N. by the Scarritt Furniture Co., St. Louis, and which road forms one of the T. & P. connections.

For Incorporated Companies.

It is hardly possible to emphasize too strongly the importance of accurate book-keeping. The records of many incorporated companies, while possibly correct, are kept in such a way as to necessitate an expenditure of a vast amount of unnecessary time, and according to such methods that only an accountant can decipher them. It is important that every company should have its records and official documents kept in a compact form, easily and quickly attainable at any time. As a means to this end we commend a series of books manufactured by the Corporation Book Co. in Lancaster, Pa. These include a Record Book, a Stock Register, a Stock Ledger, a Transfer Book and a Dividend Book. The Record Book has special pages, properly ruled, for copies of certificates of incorporation and other official certificates and statements; for subscriptions to capital stock; for by-laws and amendments thereto; for minutes of meetings of stockholders and of directors. Thus, in one book, all these records of the company are easily found at any time. The Stock Register is designed to present a complete history of every certificate of stock which may be issued by the company. The Stock Ledger is so ruled that it gives a complete history of the issue and transfer of the certificates of stock issued by the company; at the same time it gives, in ledger form, the number, date, etc., of the shares held by each stockholder. At a glance the entire ownership of the stock can be seen. The Transfer Book is a companion book to the Stock Ledger and Stock Register. It is designed for the legal transfer, "on the books of the company," of the certificates of stock issued by the company. The Dividend Book is specially ruled so as to show the dividends declared and paid, with signatures of parties to whom payments are made. For the use of small companies, these books are combined in one volume with fewer pages to each. Circulars with description in detail may be had from the Corporation Book Co., P. O. Box 384, Lancaster, Pa.

"THE COLLIAU"



NEW AND IMPROVED
HOT BLAST CUPOLA,
(patent March, 1884), and New
Smokeless and Automatic Feed
Boiler (pat. 1886, in U. S.)
Correspondence solicited for
plans of foundries and the eco-
nomical working of cupolas, the
saving of fuel in melting iron
and steel, and in the production
of steam. Address **VICTOR
COLLIAU,** Mechanical Engi-
neer and Architect, 287 Jeff-
erson Avenue, Detroit, Mich.



The COLLIAU PATENT Cupola Furnace.

Adapted to all Foundries,
The Most Economical,
The Lowest in Price.

MANUFACTURED EXCLUSIVELY BY

BYRAM & CO.
DETROIT, MICH.

JAS. P. WITHEROW.

ENGINEER & CONTRACTOR,
Furnace & Steel
Plant Construction.
PITTSBURGH, U. S. A.

Blast Furnaces and Steel Works designed and erected complete in every detail ready for operation. Special attention given to the manufacture of

HEINE Safety Water Tube Boilers.

Owning an extensive manufacturing plant, I can guarantee promptness in execution, and satisfaction in any contracts undertaken by me.

Gordon, Strobel & Laureau,
(LIMITED),
ENGINEERS AND CONSTRUCTORS,
PHILADELPHIA, PA.

Blast Furnaces, *
*** Steel Plants,**
Fire-Brick Stoves, *
*** Blowing Engines.**

We are sole manufacturers of the GORDON-WHITEWELL-COWPER FIRE-BRICK HOT-BLAST STOVE, and within four years have introduced them as follows:

Jefferson Iron Works, Ohio.....	4
North Chicago Rolling Mill Co., Ill.....	3
Joliet Iron & Steel Co., Ill.....	4
Missouri Furnace Co., Mo.....	2
Jupiter Furnace Co., Mo.....	3
Western Steel Co., Mo.....	3
Tenn. Coal, Iron & R. R. Co., Ala.....	18
Cleveland Rolling Mill Co., Ohio.....	4
Belmont Nail Co., W. Va.....	3
Sloss Iron & Steel Co., Ala.....	8
Ala. & Tenn. Coal & Iron Co., Ala.....	9
Nashville Iron, Steel & Charcoal Co., Tenn.....	4
Decatur Land, Iron & Furnace Co., Ala.....	2
N. Y. & Perry Coal & Iron Co., Ohio.....	2
Princess Furnace, Va.....	2
*Irondale Furnace, W. Va.....	2
Cornwall Anthracite Furnaces, Pa.....	4
Duluth Iron & Steel Co., Minn.....	3
Reading Iron Co., Pa.....	3
Total.....	85

ENGRAVING
Ramsdell Engraving Co.
NEW YORK

THE IMPROVED LANCASTER

Turbine Wheel

Write for Descriptive Catalogue.



Lancaster Turbine Wheel Co. Lancaster, Pa.

Rome Foundry & Machine Works,
ROME, GA.

Manufacturers of the well known
DAVIS DOUBLE TURBINE

Water Wheel

Beyond all question one of the best Wheels on the market, and is fully guaranteed.



Send for Illustrated Catalogue and Price-List.

ALSO MANUFACTURE
Portable & Stationary Engines
AND BOILERS.

Grist and Flouring Mill Machinery.

The Balanced Gate Turbine.



PAT. SEPT. 3, 1889.
High Percentage,
Great Simplicity,
CLOSE FITTING
—AND—
EASY WORKING GATE
Under all Circumstances.
Sold under Full Guarantee at Low Prices.

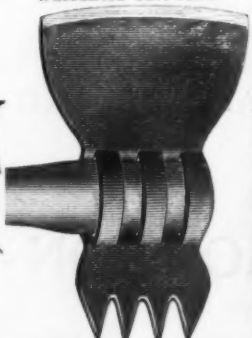
Send for Descriptive Pamphlet.

CHRISTIANA MACHINE CO., Christiana, Pa.

Makers of all kinds of Machinery for Transmitting Power. Perfect Goods Only.

**NICKLE-PLATED
Family Hatchet & Ice Pick.**
Warranted Cast Steel.

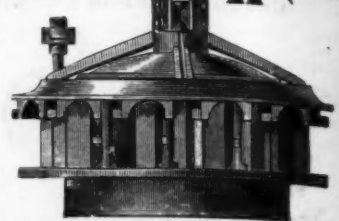
G. J. Waples



Manufactured by the
EMPIRE PORTABLE FORGE CO.
Lansingburg, N. Y., U. S. A.

SUCCESS

Water Wheel.



This Wheel is strong and durable. Excelled all other wheels in the great trial tests. Is in use all over the nation. I also make a specialty of
HEAVY GEARING & MACHINERY
For Paper, Cotton and Grist Mills.

S. MORGAN SMITH, York, Pa.

ALCOTT
IMPROVED TURBINE
WATER WHEELS.
MOUNT HOLLY, N. J.

HUGHES STEAM PUMP CO.
CLEVELAND, O.

MANUFACTURERS OF
Single, Duplex and Compound Pumps
FOR ALL DUTIES.
WATER WORKS PUMPING ENGINE.
SEND FOR CATALOGUES AND PRICE LISTS.
Donagan & Swift, New York Agents.
T. R. WINGROVE, 324 NORTH ST.
BALTIMORE AGENT.



DON'T BUY AN ENGINE —OR— BOILER

Until you have seen our circulars. Engines complete from 5 to 110 horse power, both Vertical and Horizontal, at prices below those of other reputable makers. 10000 in use. Boilers of every style. Automatic Engines for Electric Lights. Centrifugal Pumping Machinery for Drainage or Irrigation. Established 25 years. Perfect satisfaction guaranteed. Ask for Circular M and address

Morris Machine Works,
BALDWINVILLE, N. Y.

HARTMAN'S PATENT INSIDE SLIDING WINDOW BLIND

Is the most popular Blind in America. Architects and Builders prefer it to any other for merit, style, convenience and economy. Not complicated. The only blind that is furnished with an automatic **Interior Proof Lock**, free of charge. This item of immense magnitude, and may save you many times the cost of blinds and perhaps life also, and the only blind that gives entire satisfaction. **Thousands** in use. Agents wanted everywhere. Send for illustrated catalogue and prices. Manufactured by
HARTMAN & DURSTINE,
No. 5 Beaver St., WOOSTER, OHIO.

WILLER'S SLIDING BLINDS

SUPERIOR TO ALL OTHERS.



AWARDED THE HIGHEST PRIZE AT THE CINCINNATI CENTENNIAL EXPOSITION.
USED BY LEADING ARCHITECTS
STATE YOUR BUSINESS WHEN WRITING FOR A CATALOGUE OR AGENCY.
WILLIAM WILLER
SOLE MANUFACTURER—FOURTH & CEDAR STS.
MILWAUKEE, WIS.

THE PLACE FOR FACTORIES.

THE ROANE IRON CO.

WILL BUILD UP A

LARGE MANUFACTURING CITY

AT

ROCKWOOD, TENN.

AND IS PREPARED TO OFFER SUBSTANTIAL INDUCEMENTS TO MANUFACTURERS.

O—AS TO RESPONSIBILITY OF THIS COMPANY, PARTIES ARE REFERRED TO EITHER DUNN OR BRADSTREET.—O

FOR PARTICULARS ADDRESS

ROANE IRON CO., Rockwood, Tenn.

West Salem Land Co.

SALEM, VA.

Authorized Capital, \$500,000

OFFER STOCK IN

Series C, New Castle Series.

SHARES \$10

PAR VALUE.

ARE SOLD TO SUBSCRIBERS AT \$5.

Payable, One Dollar When Subscription is Made, and One Dollar Each June 1, July 1, August 1 and September 1; at which time Certificates of Stock will be issued, declared Fully Paid up and Non-assessible.

The town of New Castle (or Craig City) is the county seat of Craig county, Va., and lies midway between the Chesapeake & Ohio Railroad at Eagle Rock, and the Norfolk & Western at Salem, Va. A branch of the Chesapeake & Ohio Railroad is now being built to New Castle, which will be completed about Sept. 1, 1890. This road will open up the richest mineral region of Virginia, and cause great development of resources and consequent enhancement of values.

The property belonging to this series will be divided into about 600 business and residence lots, and will be sold for the benefit of the stockholders. Applicants for stock in series C will please remit \$1 per share to the West Salem Land Company at Salem, Va.

GEORGE ALLEN, President.
C. C. TOMPKINS, Secretary.

GEO. T. McWHORTER, Prest., Chickasaw, Ala.
JAS. M. ALLEN, Secretary, Waterloo, Ala.

Capital Stock \$200,000.

THE WATERLOO Land, Mining & Mfg. Co.

WATERLOO, ALA.

(Lauderdale Co.)

Will encourage the location of manufacturing and industrial enterprises in the town of Waterloo by donations of town lots, mineral and timber lands, and stock of the company. Persons who contemplate engaging in enterprises of this character in North Alabama are requested to consider the advantages, present and prospective, of this point before deciding to locate elsewhere. Waterloo is situated on the north bank of the Tennessee river, below Colbert Shoals and consequently at the head of summer navigation on said river. During low-water stage light draft steamers run from Waterloo to Florence, Sheffield and other points above the shoals, freight being transferred at Waterloo. At this season goods may be billed from St. Louis, Cincinnati, Louisville, Evansville and all Western river cities to Waterloo cheaper than any other town in Alabama (Chickasaw excepted). Waterloo is in the heart of the mineral belt, the immense beds of iron ore of Wayne and Lauderdale counties lying in close proximity (5 to 10 miles). Limestone, silica and kaolin are abundant and close. The largest area of virgin forest in North Alabama lies in sight. The Land Company owns large bodies of this, together with many valuable town lots. The water supply is abundant and pure. Scores of springs bubble up within the town limits and the limpid waters of Second Creek wash the eastern border. The health of the community is unexcelled and the cost of living cheap. This is the largest shipping point for tan bark in the State. Present price of bark at landing \$4.50 per cord. Special facilities for tanning leather. The Land Company will donate a large body of fine timber and mineral land in a block to secure the construction of a railroad, north or east from Waterloo, such a road being needed in connection with the unequalled facilities of water transportation enjoyed by the town. Liberal aid will be given to persons who will locate industries here that give employment to labor and add value to raw material.

No matter what you intend to manufacture, consult the Waterloo Land, Mining & Manufacturing Co. and learn what facilities for the prosecution of your business the place enjoys and what inducements will be offered you to come. All questions truthfully and fairly answered.

For further information consult the President, Secretary or Hon. Hiram Richardson, Vice-President, Waterloo, Ala.

Six Trunk Line Railroads at

BESSEMER

In the heart of Mineral Alabama, encircled with hills of Coal, Iron and Limestone Rock.

"The South is the coming El Dorado of American adventure. May the Almighty speed and guide her onward progress!" So wrote the Hon. W. D. Kelley, M. C., of Pennsylvania, a few months ago, and every day brings forth new evidence to prove the correctness of his prediction and to show that without a doubt the South is to be the richest country upon the globe. In climate, soil, mineral and timber wealth, in rivers large and small, in a long seacoast, in abundant rainfall, in healthfulness and in every other advantage that could be asked nature seems to have done her best for this favored land. The wealth in iron and coal is beyond estimate. Of timber there is an unlimited supply, including nearly every variety of hardwoods for woodworking purposes.

WHERE MONEY WILL GROW!

Seven Furnaces, output 1890, 250,000 tons; Rolling Mill, 100 tons daily;
Fire Brick Works, 25,000 daily;
Many Lesser Industries

Offers Thirty Varieties of Hardwoods
for Woodworking Industries.

11,000 City Lots For Sale.

The Bessemer Land & Improvement Co.

this new year, are prepared to deal liberally for the founding of Iron and Woodworking industries in this growing Mining and Manufacturing Center.

H. F. DeBARDELEBEN, Prest.

H. M. McNUTT, Secretary.

BIG STONE GAP, VA.

"Nature has done for Big Stone Gap what Art, Aided by Millions, can do for no other City."

EIGHT LAND, COAL, IRON and DEVELOPMENT COMPANIES, whose capital aggregates millions of dollars, are aiding the railroads to develop this wonderfully rich Mineral, Coal and Timber Region, and to build here

A MIGHTY CITY.

LOCATION.

High, healthful, beautiful. Drainage perfect. Confluence of two swift-falling rivers.

NATURAL ADVANTAGES.

The point in all the world where inexhaustible **COKE, IRON ORE, LIME-STONE** and **WATER**, of best quality, are closest together and easiest got, and where consequently **Iron and Steel** can be most cheaply made.

TRANSPORTATION FACILITIES.

A natural pass-way at water-level in a great chain of mountains, it is of necessity the focal point for Railroads connecting the West with the seaboard, and the markets of the Northwest with the rich coal and iron fields of the Southeast. **FOUR RAILROADS**, one completed and three to be completed during the year. **FIVE MORE RAILROADS** being constructed, with Big Stone Gap as the ultimate terminus.

DIVERSITY OF INDUSTRIES.

Easily secured. The **HEART** of the finest **COAL, IRON** and **TIMBER BELT** on the Continent. Marble, Building Stone, Building Brick, Fire Brick, Lime, Mineral Paints, Tanneries, Potteries, etc., etc.

There are in Course of Construction at Big Stone Gap

Two one hundred-ton Iron Furnaces.
An Electric Light and Power Plant by the Thomson-Houston Co., equal to any in the South.
A Hotel second only to the Ponce De Leon.
A Street Railway three miles long operated by steam.
A Belt Line for manufacturing enterprises six miles long to be extended to eighteen.
Two complete Lumber and Finishing plants.
A complete all the year round Brick Plant
A complete Telephone Exchange.
A complete Steam Laundry.
A Furniture Factory.
A Terra Cotta and Sewer Pipe Company.
A Union Depot which will equal any in the South.
A Coke Plant modeled after the celebrated Connellsville plant building by the Virginia Coal & Iron Co., of which E. B. Leisenring (late president of the Connellsville Coal & Iron Co.) is president.
This company will build coke ovens to meet any demand which may be made upon them.

GRAND OPPORTUNITIES OFFERED to Investors, Capitalists, Manufacturers, Mechanics, Laborers, Pleasure Seekers and Home Seekers.

FOR INFORMATION IN DETAIL ADDRESS

BIG STONE GAP IMPROVEMENT CO. or Real Estate Exchange.

BEDFORD CITY, VA.

(FORMERLY LIBERTY.)

The Most Beautiful Residence Portion of this Growing City is

LONGWOOD PARK,

The Property of the Longwood Land & Improvement Co.

The property is within five minutes' walk of the N. & W. R. R. depot. It is intersected by broad, oak-shaded avenues, and divided into building lots averaging ninety feet front by 230 feet deep. A superb view of the beautiful Peaks of Otter visible from every part of the property. Prices range from \$6 to \$12 per front foot, according to location, &c.

No Better Investment can be made than in Lots in Longwood Park, at these Prices.

THE CITY HAS AN ESTABLISHED SOCIETY.

Churches, Schools and Academies, (among them the finest in the South,) Manufactures of many kinds, a magnificent supply of Free-stone Water, systems of Arc and Incandescent Electric Lighting, admirable Railroad Connections, a surrounding country of unlimited Mineral Resources and Great Fertility. For further information apply to

R. KENNA CAMPBELL, Gen. Manager

The Longwood Land & Improvement Company.

GRAHAM, VA.

==* Tazewell County. *

THE FAVORED SECTION.

The Graham Land & Improvement Company.

OFFICERS.

E. A. DENNISTON, - - - - - President.
EDWARD ILSLEY, - - - - - Vice-President.
F. J. COLLINS, - - - - - Secretary and Treasurer.

DIRECTORS.

A. J. MAY, Tazewell C. H., Va. THOS. GRAHAM, Philadelphia Pa.
C. M. CLARK, Philadelphia, Pa. J. B. GREEVER, Graham, Va.
J. D. SERGEANT, Philadelphia, Pa. J. H. DINGEE, Philadelphia, Pa.
H. M. SILL, Philadelphia, Pa.

R. K. WRIGHT, JR., Agent, Graham, Va.

The Graham Land & Improvement Company has purchased about 900 acres of land, including the old town of Graham, at the junction of the Clinch Valley & Ohio extension of the Norfolk & Western railroad, in Tazewell county, Va., and has improved the property by laying it out in lots and streets. Several of the streets have been graded and macadamized. The work of macadamizing is being continued with great activity.

The land is so situated, being at the junction of two important branches of the Norfolk & Western Railroad, with the Bluestone river running through it, and in close proximity to the Pocahontas coal fields—the finest coking coal in the world—and the iron ore deposits of the Clinch Valley, that it will in a short period become an important iron manufacturing center as well as a distributing point for the entire coal field.

The Clinch Valley & Ohio extension of the Norfolk & Western Railroad runs through a section of country heavily covered with poplar, white and chestnut oak timber, and it is believed that Graham, at the junction of these two branches, is a most desirable location for the establishment of saw mills, tanneries, pulp mills and other woodworking establishments.

The company proposes to donate sites to all worthy manufacturing enterprises, and stands ready to take a limited amount of their stock.

The Following Desirable Industries have been Already Secured:

The Graham Furnace Company, with a capital of \$250,000, has under construction an iron furnace, dimensions 16x70 feet, with a capacity of about 100 tons per day, and expects to be in blast by November 1st.

The Virginia Lumber Company, with a capital of \$50,000, are erecting their buildings and will be in operation by the 1st of May.

Arrangements are also being made with parties who propose building at once a large general supply store and warehouse, building to cost about \$10,000, and having a working capital of not less than \$50,000.

The Graham Transparent Ice Company has been organized with a capital of \$50,000. Part of the machinery is now on the ground.

A large furniture factory has been organized with a capital of \$50,000.

Mr. Thomas B. Graham has secured a site on which he will erect a flouring mill with a capacity of thirty-five barrels, and expects to be in operation within sixty days.

The Graham Land & Improvement Company have made arrangements to supply the new town with water. The capacity may be extended to 2,500,000 gallons.

The Furnace Company has contracted to put in an electric-light plant for the purpose of lighting up their grounds, the Graham Inn and the commercial part of the city.

Bids are being received by the Norfolk & Western Railroad Company for the building of a grand Union Passenger Depot at the junction and terminus of the Clinch Valley division, New River division and Ohio extension of the Norfolk & Western Railroad.

The Graham Land & Improvement Company have plans perfected for a fine hotel, which they hope to have ready for occupation by September 1st. The hotel will be heated by steam and lighted by electricity, and it is the aim of the company to make it one of the most attractive hotels in Virginia.

The Graham Publishing Company has been formed with a capital of \$12,000, all of which is subscribed.

Projected Enterprises:

Woolen mill, \$50,000.

Flour mill, 75 barrels capacity, \$35,000.

A muck bar rolling mill company with a large capital.

On the 10th of April, 1890, the Graham Land & Improvement Company sold at auction \$165,000 worth of business and resident lots. During the same day the private sales were large, making a total of \$210,000.

Lots are comparatively very cheap at current prices.

Capital stock \$250,000, one hundred dollars per share. Present worth two hundred dollars per share and none to be had.

The Edison System.

So much has been written from time to time that it seems almost unnecessary to add more about electric lighting, the name of Edison in connection with incandescent lighting being, so to speak, a household word throughout the United States, and, in fact, the whole world.

For those, however, who may be intending to install the Edison system in their places of business, factories or mills, the following short description may not be out of place:

There are two systems of electric lighting, namely, the arc and incandescent. The arc is a light of great intensity concentrated, and is commonly used in illuminating streets and large open spaces. The incandescent is a soft light, of the brightness of a good gas jet of the best quality, but without flicker, and is especially adapted for domestic and industrial purposes. These two systems of lighting are radically distinct, a fact which must be borne in mind when comparing the Edison incandescent system with the arc lights.

THE EDISON INCANDESCENT LAMP.

This lamp consists of a pear-shaped glass globe about $4\frac{1}{2}$ inches in length, exhausted of air, into which is sealed a filament of carbonized bamboo slightly thicker



FIG. 1.—THE EDISON INCANDESCENT LAMP.

than a horse hair. This filament, becoming incandescent by the passage of the current of electricity through it, emits a beautiful soft, white light, absolutely steady and constant, and equaling in intensity, or exceeding, if desired, the illuminating power of a gas jet of the best quality.

The lamp is screwed into a socket, which is permanently attached to a gas or other chandelier or fixture, and contains a key whereby the light in the lamp may be turned on or off. The lamp, once screwed into the socket, needs no further attention or care until the carbon breaks, when the lamp is unscrewed from the socket and a new one screwed in its place—the work of a few seconds. The lamps vary in the number of hours which they will burn, but their average life at normal candle-power exceeds 600 hours of actual burning. In practice the lamps have an average life of much longer duration. The company, however, gives a written guarantee to every purchaser of a plant that the average life of the lamp shall be at least 600 hours of burning at the candle-power for which the lamp is rated.

The sixteen-candle lamp is found to be the one which fills all the ordinary requirements, but there are numerous cases where ten-candle lamps are found ample, especially where each workman requires a separate light immediately over his work.

The Edison lamp gives out but little

heat (less than one-fifteenth as much as gas), may be grasped by the naked hand without inconvenience, is absolutely free from odor and poisonous or noxious gases, and neither heats nor vitiates the surrounding atmosphere. The most delicate of fabrics are not scorched or injured by being wrapped around the lamp when burning at its normal intensity.

the same manner as a lamp. If, therefore, the wires should become overcharged from any cause, this safety catch would at once melt off harmlessly and open the circuit, thus preventing the flow of current, and averting all possible danger from fire. These circuits can be again closed by taking out the safety plug and putting in a new one—the work of a moment.

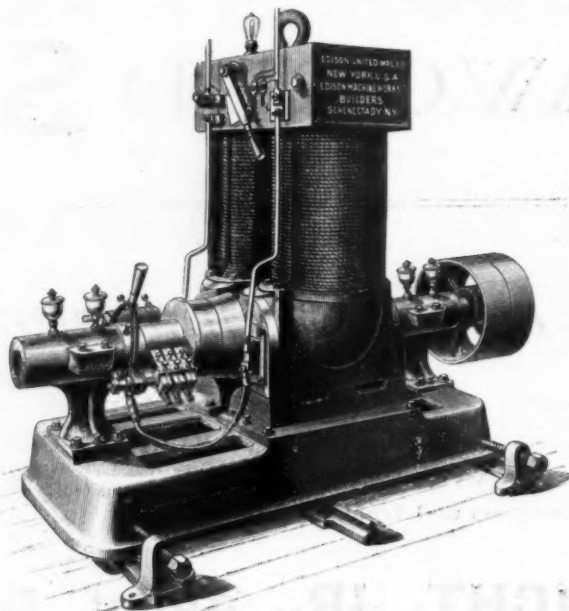


FIG. 2.—THE EDISON DYNAMO.

The lamp does not explode, and even if the glass is broken by any accident, the carbon is instantly consumed, and the light at once goes out harmlessly.

Besides being highly valuable for domestic and general illumination, the light is especially adapted to the workshop, inasmuch as by inverting the lamp its whole light may be thrown on the work in hand in any required position whatever. Attached to a flexible cord, the light may be placed under, over or inside of machines of every description, put under water, used in the midst of delicate or dangerous substances, and, in fact, applied as no other system of artificial lighting can possibly be.

The light, although bright and clear, is said to be not injurious to the eye, even if used close to them.

The current generated by the Edison dynamos for isolated plants never exceeds a certain intensity in pressure, namely, the pressure exerted by the current in overcoming the resistance offered by the filament of carbon in the lamp.

The current is of such low pressure that the conductors at any part of the system, and even the poles of the dynamos themselves, may be grasped by the naked hand without the slightest bodily effect.

Fires are rendered impossible by means of a small automatic device invented by Mr. Edison called the "cut out" or "safety catch."

This safety catch consists of a small piece of lead wire, fusible at a low temperature, placed in each branch circuit.

The end accomplished by this is that if the conductors were brought together by accident, such a low resistance would be offered that the current would rush to this point because it would afford an easier passage than through the lamps. The consequence would be the melting of the wires and possible danger of setting fire thereby to any adjacent inflammable material. It is to provide against this danger that the safety catch is placed in the path of the current. The fusing point of the lead wire in the safety catch is between 450 and 500 degrees Fahrenheit, while it requires about 2,143 degrees to melt copper of proportionate size. The safety wire is placed in a closed receptacle, which is screwed into the place designed for it in

The motive power may be either steam or water.

It is not necessary to have a special engineer or electrical expert to run the dynamo.

Accompanying each dynamo is a regulator, by which the intensity of the light may be regulated at will.

ECONOMY

One of the first questions that an intending purchaser asks is: Will it be more economical for me to light my factory with electric lights than by gas or oil, or shall I

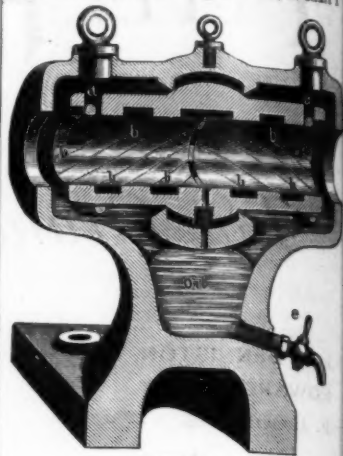


FIG. 3.

save money by adopting electricity for illumination?

The answer is most emphatically yes, and that beyond question. Shown not only by the immense strides made in the business by the Edison Company since its inauguration, but by actual figures and proofs of people who have adopted the light.

The United Edison Manufacturing Co., 65 Fifth avenue, New York city, N. Y., makes contracts for complete installations, construction and all, and are directly responsible for everything about the plant.

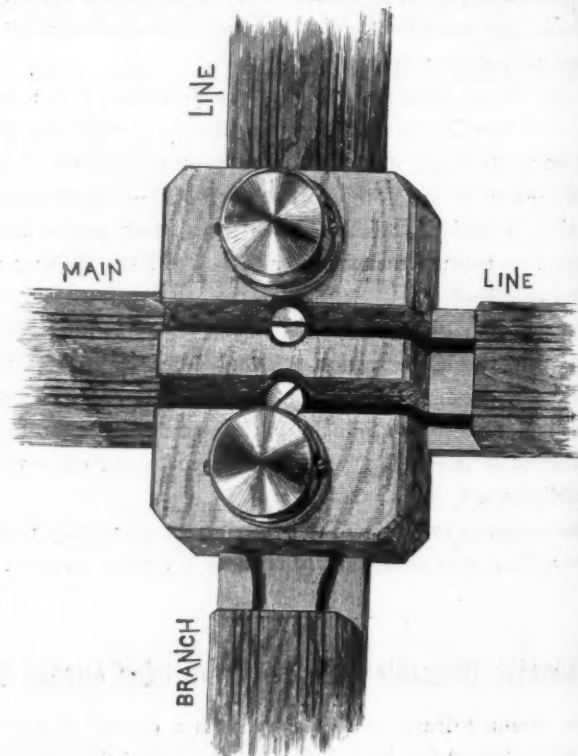


FIG. 4.

ever taken place from the Edison system properly installed.

THE DYNAMO.

A cut of the standard dynamo is here shown.

The Edison dynamo supplying the current from the lamps consists of a powerful electro magnet, between the poles of which an armature or inducing coil revolves.

There are no sub-contractors, and there is no division of responsibility.

This enables the purchaser to be in direct communication with its head office.

If you are not already a subscriber to the MANUFACTURERS' RECORD, send us \$1 and you will receive it regularly for one year or six months for \$2.00.

The Staunton Development Co.

OF STAUNTON, VIRGINIA.

Authorized Capital \$2,000,000.

Shares \$100 par value each.

OFFICERS

M. ERSKINE MILLER, President, Staunton, Va.

S. M. YOST, Vice-President, Staunton, Va.

W. P. TAMS, Treasurer, Staunton, Va.

W. J. PERRY, Secretary, Staunton, Va.

DIRECTORS.

ISAAC WITZ, Staunton, Va.

S. M. YOST, Staunton, Va.

O. K. LAPHAM, Chicago, Ill.

GEORGE H. HULL, President American

E. F. EAKLE, Staunton, Va.

JED HOTCHKISS, Staunton, Va.

H. H. FAY, Capitalist, 28 State Street,

Pig Iron Storage Warrant Company, 44

JOHN McQUAIDE, Staunton, Va.

J. H. WAYT, Staunton, Va.

Boston, Mass.

Wall Street, New York.

ANDREW BOWLING, Staunton, Va.

M. ERSKINE MILLER, Staunton, Va.

W. L. FLEMING, Richmond, Va.



STAUNTON, VIRGINIA.

The Queen City of the Valley of Virginia.
Present Population 12,000.

Situated in Augusta county at the crossing of the Baltimore & Ohio and Chesapeake & Ohio railroads and accessible to the great coal and coke fields, namely: Connellsville, by the Baltimore & Ohio; Pocahontas or Flat Top by the Norfolk & Western and Chesapeake & Ohio, and New River Coke Fields by the Chesapeake & Ohio.

PROPERTY.

The lands acquired, aggregating 2,242 acres, more or less, are favorably situated within the city limits and adjoining the corporation lines, and it might be fairly said that about 240 acres are situated within the city of Staunton. The great bulk of the property lies between the Valley Railroad or Baltimore & Ohio Railroad and the Chesapeake & Ohio Railway, and is most admirably situated for railroad switches and side tracks to reach manufacturing enterprises. Several streams of good water run through the lands, affording abundant water supply for factories and fine drainage.

CAPITAL STOCK.

The authorized capital is two million dollars. One million, two hundred thousand dollars of stock will now be issued,

of which \$204,800 has been disposed of, leaving \$800,000 of stock in the treasury, to be hereafter issued, if it should be deemed wise to do so.

Subscribers will bear in mind that with every two shares of stock they will be entitled to either a business or residence lot, to be determined by a drawing at a date to be hereafter designated.

BOOKS OF SUBSCRIPTION NOW OPEN.

Staunton is within six hours' ride from Washington, seven of Baltimore, nine of Philadelphia and eleven of New York.

It has an excellent system of water works, paid fire department, electric light and gas companies, ice factory, street car line under construction, four newspapers, handsome opera house, commercial college and other important industries that contribute to the welfare of the city.

Standard Land Co.

INCORPORATED.

CATLETTSBURG, KY.

Has for sale valuable Timber, Coal and Iron Ore Lands in Kentucky, West Virginia and Virginia, -cheap. Write for descriptive list.

To Those Looking For MANUFACTURING SITES IN THE SOUTH.

The most desirable locations in the South for manufacturing wagons, stoves, agricultural implements, furniture, or for foundries, machine shops, rolling mills, muck bar mills, nail works, glass works, cotton or woolen mills, and tanneries, are to be found in Virginia along the line of the Norfolk & Western Railroad from Norfolk to Bristol, and upon its branch lines. Hard wood of every variety; pig iron from the furnaces at Lynchburg (2), Roanoke (2 in operation and 1 now under construction), Pulaski (1), Ivanhoe (1), Radford (1, to be built in 1890), Salem, Graham Max Meadows and Bristol (1 at each point now under construction), bar iron from the rolling mills at Roanoke, Lynchburg and Richlands (1 to be built in 1890); coke and semi-bituminous coal from the Pocahontas Flat Top field; superior gas coals from the mines on the Clinch Valley Extension; glass sand from Tazewell county; cotton from the markets of the Southern States, and wool from all the Western and Southwestern States and Territories at advantageous freight rates. Favorable freight rates made upon raw materials to all factories established upon its line, as well as to points in the United States and Territories upon the manufactured articles.

Those seeking new fields for manufacturing establishments should not fail to investigate the wonderful development of iron, coal and coke industries that has been made within the past five years along the line of the Norfolk & Western Railroad, and the advantages offered by the State of Virginia in the supply of cheap raw materials; by the Norfolk & Western Railroad in the matter of freight facilities and rates upon raw materials and for reaching home, far distant and foreign markets, and by the cities and towns along its line in the way of advantageous sites at moderate cost. Many of the cities and towns exempt manufacturing establishments from taxation for a series of years.

For further information as to freight rates and sources of supply of raw materials, apply to A. Pope, General Freight Agent, Roanoke, Va., or to

CHAS. G. EDDY,
Vice-President, Roanoke, Va.

RADFORD, VA.

Town Lots, Mineral, Timber and Farm Lands.
We have many large and small tracts.

Iron Ore, Coal, Glass, Sand, Marble, Building Stone, and Several Mineral Springs, of Wonderful Curative Properties.

The best of farming and grazing lands. No malaria. No mosquitoes. Salubrious climate. Gorgeous scenery. Water power unlimited. Factory sites donated. Property at first hands, so get in on "rock bottom." Write to or call on

BARCLAY & CROCKETT,
The leading Real Estate Agents of Southwestern Virginia, RADFORD, VA.

TAX EXEMPTION

—FOR—

MANUFACTURERS.

An Ordinance to abate for ten years from the 1st day of July, 1889, under certain conditions, the personal taxes on mechanical tools and implements used in manufacturing within the limits of the city of Norfolk, Va.:

WHEREAS, the geographical situation of the City of Norfolk, its convenient and commodious harbor, the ample means of transportation tributary to it, the abundant supply of lumber, coal, iron, cotton and other materials easily accessible, and its other natural and acquired advantages, offer superior inducements to manufacturing and other business enterprises, and whereas the city is desirous of fully developing and utilizing these advantages and, to that end, of encouraging the investment of capital in, and the establishment of various manufacturing enterprises within its limits or immediate vicinity, therefore,

SEC. 1. Be it ordained by the Select and Common Councils that the Finance Committee of the Councils be, and it is hereby authorized and directed upon the application of any individual, firm or corporation, actually engaged in the business of manufacturing in the city of Norfolk, to abate any and all personal taxes which may be levied hereafter for any of the corporate uses thereof upon any mechanical tools or implements, whether worked by hand or by steam or other motive power, or upon any machinery, manufacturing apparatus or engines owned by such individual, firm or corporation, and actually employed and used in the business of manufacturing in said city; provided always, that such application for an abatement of taxes in any year shall be made before the annual levy is made by the Commissioner of the Revenue, and provided also that every application for such abatement shall be verified to the satisfaction of said Finance Committee by the oath of the party applying for the same or other satisfactory evidence, and provided further that no abatement or exemption shall be made under this ordinance until a manufacturing enterprise or business, in which shall be actually invested a capital of not less than \$25,000, and which is not at present established or carrying on business within the limits of the city of Norfolk, shall be established within such limits.

SEC. 3. And be it further enacted and ordained that nothing herein contained shall be construed to authorize any abatement of taxes levied upon property assessable and taxable as real estate.

SEC. 4. And be it further ordained that this abatement or exemption shall extend for the space of ten years from 1st of July, eighteen hundred and eighty-nine.

SEC. 5. This ordinance shall be in force from its passage.

Adopted as amended by the Select Council November 12, 1889.

(Signed) **FRANK MORRIS,**
President Select Council.

Adopted by the Common Council December 3d, 1889.

(Signed) **H. HODGES,**
President Common Council.

A true copy.
W. W. HUNTER,
City Treasurer.

DENISON, TEXAS.

THE

Future Manufacturing and Commercial Center OF THE GREAT SOUTHWEST.

DENISON SUPPLIES THE COAL FOR TEXAS.

She has at her gates the only **COOKING COAL** of any value in the Mississippi Valley. To the Southwest lies the best **MAGNETIC IRON ORE** in the world, while to the north and Southeast are fields of **BROWN HEMATITE ORE** of the finest grade. These ores must meet the **COKE** and **COAL** at **DENISON** and there to be worked.

DENISON cannot be surpassed for **HEALTHFULNESS** and **BEAUTY** of location. Six divisions of railways terminate at Denison and are operated by her citizens.

DENISON has an abundant supply of pure, soft water and plenty of good, cheap **BUILDING MATERIAL**.

The attention of investors and those seeking advantageous locations for business or for manufacturing plants is invited to the opportunities presented at Denison.

MUNSON & BRO. HAVE SUPERIOR FACILITIES FOR THE SAFE AND PROFITABLE INVESTMENT AND HANDLING OF CAPITAL.

For information about **DENISON** and for bargains in **BUSINESS** and **RESIDENCE PROPERTY**, **ACRE PROPERTY** and **FARMS NEAR THE CITY**, write or call upon

MUNSON & BRO.

301 WOODWARD STREET,

DENISON, TEXAS.

REAL ESTATE —FOR— Investment or Speculation.

One of the Most Solid and Substantial of all the Southern Towns is

BRISTOL, TENN.

It is in the center of the richest mineral, timber and agricultural sections of the South—East Tennessee and Southwest Virginia.

It is becoming an important railroad center.

It has now a population of **10,000**, which is increasing every day.

It has in the **HOTEL FAIRMOUNT** one of the handsomest and most thoroughly equipped hotels in the South.

It has in operation car shops, planing mills, foundries, woolen factory, cotton factory, carriage factory, veneer factory, canning factory, planing mills, brick-yards, &c. An iron furnace to cost \$300,000 has been contracted for.

The climate of Bristol makes it a natural sanitarium the year round.

There is no better place in the South for profitable real estate operations.

Some of the best business, residence and suburban property in the town is controlled by

W. A. R. ROBERTSON, Real Estate Agent.

Write to him for details. He is giving particular attention now to two or three special things that will pay big profits on short turn.

J. A. HOOVER,
P. O. Building, MORRISTOWN, TENN.
Real Estate Agent.
Lands bought and sold on commission.

R. K. WRIGHT, JR.
Real Estate and Insurance
GRAHAM, Tazewell Co., VA.
REPRESENTING
Graham Land & Improvement
Co. and Niagara Fire In-
surance Co. of N. Y.

JOE H. BUSBEY
REAL ESTATE
— AND —
Investment Agency,
TREDEGAR
(P. O. Jacksonville, Calhoun County, Ala.).
Correspondence solicited.

PORTSMOUTH, VA.

The commerce of the twin cities, Port-
smouth and Norfolk, by land and water has
been rapidly growing since the war, but
within the past year new railroads have been
added and old ones greatly extended, so that
today this locality is the starting point of
more railway systems than any seaport South
of New York City, and is unsurpassed as a
distributing point for manufacturers, es-
pecially for those who are or may be located
in the Southern branch near Portsmouth.
The situation is just beginning to be
appreciated by investors who look for
solidity and see that no set-backs are to be
feared at Portsmouth, Va.

On the 12th day of June, 907
Choice Building Lots will be
Sold at Auction by the SOUTH
PORTSMOUTH LAND & IMPROVEMENT COM-
pany. For information address the presi-
dent,
F. RICHARDSON,
59 Main Street, Norfolk, Va.

**THE UNION
MANUFACTURING
COMPANY.**

Owing to the large demand for
machines, offer a limited
amount of stock at
\$6.00 PER SHARE.

Machines cost only \$8, and
the net income from each
is \$42 per annum.

We would consider it a
favor to have you make
the closest investigation.

Make all checks payable to
R. H. WHITNEY & CO.
75 State Street, BOSTON, MASS.

JOHN C. FIELD,
REAL ESTATE.

Town Lots, and Suburban Property.

BLUFFTON, ALA., and TREDEGAR [P. O. Jacksonville], ALA.

E. DeF. SHELTON,
Representing CITIES AND TOWNS in the
Locating of Manufacturing Enterprises.

We represent a limited number of cities and towns throughout the country, varied in their facili-
ties, and with unusual advantages for manufacturing in all branches, and offering liberal inducements
for the location of manufacturing industries. Investigate before you start or relocate your factories.

E. DeF. SHELTON,
57 BROADWAY, NEW YORK.

No Charge for Information Furnished the Manufacturer by this Agency.

HOTEL LUCERNE

J. HARRY CHAPMAN, Proprietor, Maj. J. P. LONGLEY, General Manager.

SALEM, VA.

SPECIAL ATTENTION PAID TO TRANSIENT GUESTS.

ACCOMMODATIONS FIRST-CLASS.

Fine Sample Rooms for Drummers.

Rates Reasonable.

Mineral Lands, City Lots,

GRASS, GRAIN AND FRUIT FARMS FOR SALE.

ADDRESS

F. J. CHAPMAN, - - Salem, Va.

THE CANTON

GLASS BOARD
UNEQUALLED
FOR ACCURACY AND QUICK WORK
IN CUTTING SQUARE
OR AT ANY ANGLE.
SAVES BREAKAGES ETC.
ALSO
OUR IMPROVED TRAMMEL RULE CUTTING CIRCLES
ETC. ETC.

SEND FOR CIRCULAR - THE CANTON SAW CO. CANTON, O.

WIER & WILSON,

DIRECT REPRESENTATIVES:

HUBBARD & Co., Axes, Shovels, Hoes and
Saws.
AMERICAN SCREW COMPANY, Screws, Bolts,
Wire Nails, &c.
A. FIELD & SONS, Tacks and Nails.
WHEELING HINGE COMPANY, Wrought
Goods, Butts, &c.
L. D. FROST & SONS, Philadelphia Car-
riage Bolts.
JOHN SOMMERS' SON, Faucets.
NICHOLSON FILE CO., Files.
HARTFORD HAMMER CO., Hammers and
Sledges.
THE HENRY C. HART MFG. CO., Screen
Frames, Spring Hinges, &c.
SHEBLE & KLEMM, Forks.
HOLROYD & CO., Stocks and Dies.
CLARK BROS. & Co., Bolts, Nuts, etc.

BRANFORD LOCK WORKS.
WHITE MOUNTAIN FREEZER CO.
BLAIR MFG. CO., New, Easy and Bay State
Lawn Mowers.
WINCHESTER HANDLE CO., Fork, Shovel,
Hoe Handles.
SAMSON CORDAGE WORKS, Braided Sash
Cord, etc.
OLD DOMINION IRON & NAIL WORKS CO.
Walker's Horse and Mule Shoes.
PLUME & ATWOOD MFG. CO., Copper
Rivets, Jack Chains, Lamps, etc.
JOHN C. SCHMIDT & Co., Trace & Coil Chain.
EXCELSIOR HOOK & BACK BAND CO.
NEW SCOTT MFG. CO., Fruit Parers, etc.
KLINE, LOGAN & Co., Picks, Mattocks, etc.
RIVER FOUNDRY CO., Lull & Porter Hinges,
Pulleys, etc.

OFFICE—No. 14 W. German St., BALTIMORE, MD.

"The MANUFACTURERS' RECORD is the Most
Widely-Quoted Industrial Paper in the World."

VAN DUZEN
GAS & GASOLINE ENGINE
OPERATED with COAL
and OTHER MANUFAC-
TURED GASES AND
GASOLINE.
**RELIABLE AND
ECONOMICAL.**
Fully Warranted
VAN DUZEN
Gas & Gasoline Engine Co.
56 E. 2d St., Cincinnati, O.

The Motor of the 19th Century.

2 to 40 H. P.
Can be used ANY PLACE,
to do ANY WORK, and by
ANY ONE.
No Boiler! No Fire! No
Steam! No Ashes! No
Gauges! No Engines! No
Danger! No Smoke!
A perfectly safe motor for all
places and purposes. Cost of
operation about one cent an
hour to each indicated horse-
power. For circulars, etc.,
address CHARTER GAS
ENGINE CO., P. O. Box 240, Sterling, Ill.

Clark's Improved Rubber Rolls

Wool Washers, Warp Yarn and Skein Dyeing.

Greatest depth Wearing Surface. Uniform Den-
sity: also Complete Power-Driven Wringers.
CATALOGUE FREE.



GEORGE P. CLARK, Box C, Windsor Locks, Ct.

The **SIMMERLY DERRICK**

This is a revolving Derrick
which makes a perfect circuit
from either right or left. It
can be worked from a lighter
or Steamer same as on solid
ground. It is adapted for the
hoisting of stone, iron ore, coal
or any material, and can be
used with or without the
bucket. Capacity in one lift ranges from one to
five tons. Further particulars on application to

Simmerly Derrick Co.

101 Center Street, Cleveland, Ohio.

Batts Patent Defferential Hoist.

MANUFACTURED BY THE

Boston & Lockport Block Co.

162 Commercial St.
BOSTON.

The chief merits of
this hoist that we wish
to bring to the public
notice is that it only
requires

ONE MAN TO
Hoist the Load.

It is also far more
compact, taking up less
room than any other
make, and will hold the
load at any point.

Send for circular and
prices.
Every hoist warranted.

Established 1867.

E. Harrington, Son & Co.

Works and Office,

N. 15th St. & Penna. Ave.

Phila., Pa., U. S. A.

Manufacturers of a full line of

**Iron-Working
MACHINERY,**

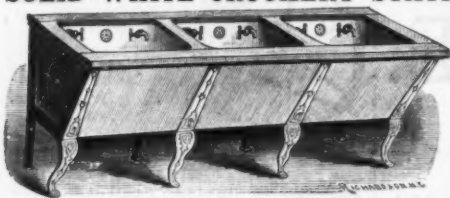
INCLUDING
Extension and Gap Lathes,
Planers with Quick Return,
Drills, &c., Hand Power Ele-
vators with Patent Brakes,
Double Chain Screw Hoists
OVERHEAD TRAMWAY, with
Switch, Turntable and Gaseous
Truck.

Gear Cutting a Specialty.
Send for estimates.

STEWART CERAMIC COMPANY,

312 PEARL STREET, Corner Peck Slip, NEW YORK.

SOLE MANUFACTURERS, UNDER MORAHAN'S PATENTS, OF THE CELEBRATED

SOLID WHITE CROCKERY STATIONARY WASH TUBS.SHOWING THREE TUBS SET UP.
Liberal Terms to the Trade. Send for Price List and Catalogue.

The Only Perfect Sanitary Tubs now in Existence. Very Strong. No Seams to Open. Absolute Cleanliness secured for all time. Well Glazed. Will not Absorb, Leak or Decay. The only Solid White Crockery Wash Tub ever made in the world. Do not buy imitations until you see the genuine "Morahan's Patent" stamped on the front of every Tub. Washboard and Soap Cup moulded in every set. Will outlast any house. Solid White Crockery Sinks. Comprising Butler's Pantry, Kitchen, Slop, Etc. Made of same material as the Tubs. Very strong, well glazed, no labor required to keep clean.

Enameled French BATHS.WITH PATENT SUPPLY
AND WASTE.SEND FOR NEW
CATALOGUE.**HAINES, JONES & CADBURY CO.**

MANUFACTURERS OF AND DEALERS IN

Plumbers' Supplies and Sanitary Specialties.

1136 RIDGE AVENUE, PHILADELPHIA, PA.

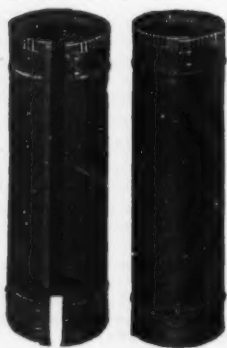


THIS HANGER GUARANTEED TO GIVE PERFECT SATISFACTION, and our track has no equal, and our prices are right.

CARRIER'S**Double-Braced Steel Rail**

Patented June 12, 1883.

This rail being double-braced and double-riveted is the strongest rail in the market. Being braced both ways it will not sag. The joint is made so it is perfectly solid. It comes complete and ready for use, requiring only screws and screw driver for any man or boy to put it up in short order. It can be used for any grooved wheel Hanger, and a heavy door will not make it spring or tremble. Guaranteed to hold a door weighing 2,000 pounds, and used in connection with our Anti-Friction Hanger will work perfectly on large or small doors.

CRONK HANGER CO., - - ELMIRA, N. Y.**PERFECTION STOVE PIPE.**

OPEN.

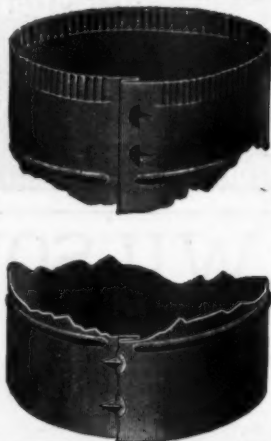
THE only nested Pipe that is absolutely complete and ready for use without using tool or rivets.

Cannot collapse or spread, thus insuring a perfect fit. Twenty-five joints in a small crate.

Manufactured by

DETROIT ELBOW CO.

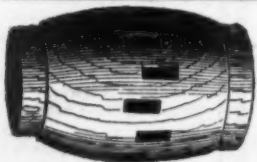
Detroit, Mich., and St. Louis, Mo.



SEND FOR PRICE LIST.

Graham Vise Wrench Co., Buffalo, N. Y.**GRAHAM VISE WRENCH**

— WARRANTED —
NOT TO CRUSH OR SPLIT PIPE.
INSTANTANEOUS ADJUSTMENT.
GRIP UNEQUALLED.

CHEAPEST, STRONGEST, SIMPLEST
AND BEST PIPE WRENCH MADE.**R. M. WHITNEY,**

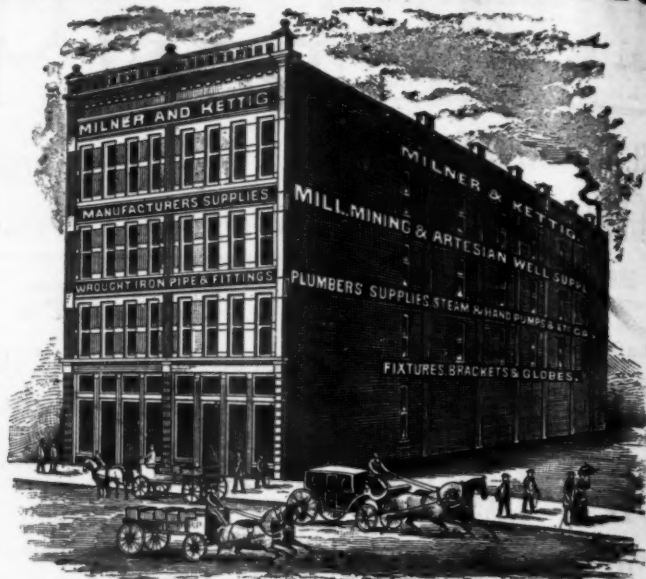
MANUFACTURER OF

BLACK BIRCH HUBS.

OLEAN, N. Y., U. S. A.

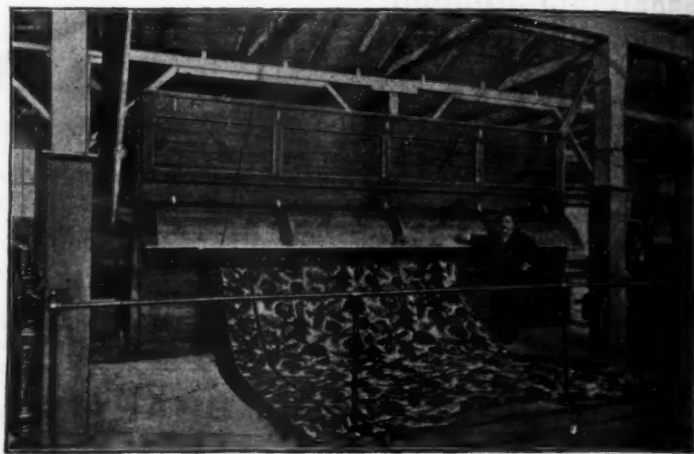
These Hubs are made in sizes from 6x5 to 16x18 inches, and are especially adapted to dry climates.

Send for Circular and Prices.

MILNER & KETTIG,**BIRMINGHAM, ALA.**

WRITE FOR CATALOGUES AND PRICES.

Prices guaranteed as low as any house in this line in the United States.

**The PEERLESS BEATER.**Patented in the
United States
and England.

The Best Machine for Cleaning Carpets in the World.

The easiest to handle; the one to do the most and best work. A machine that challenges the world for an equal in Construction, Durability and Compactness. Correspondence solicited.

A. B. COLLEN, MANUFACTURER NEW YORK CITY, P. O. BOX 490.

ESTABLISHED 1832 ON PRESENT PREMISES.

The Best

—IS—

ALWAYS

—THE—

Cheapest.

Therefore

BUY OUR

COLOPHINE

—OR—

Perfect Oils

The above are our specialties in **MACHINERY OILS**, and are the best oils for the price manufactured. We can give you anything in the **OIL LINE**, any grade, at the very lowest prices. Correspondence solicited.

WM. C. ROBINSON & SON,
MANUFACTURERS AND DEALERS IN OILS,

217 South Street Baltimore, Md.

THE WASHINGTON HYDRAULIC PRESS BRICK COMPANY,

MANUFACTURERS OF
Ornamental and Plain Front Pressed Brick in Red, Brown,
Gray and Buff Colors, also Rock-Faced and Roman Brick.

Brick for Arches Ground to any Radius.

Correspondence and Inspection of Works Solicited.

OFFICE: Kellogg Building, Washington, D. C.

Works at Waterloo, Va.

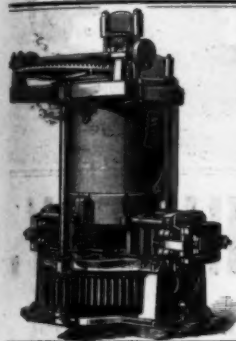
Improved Brick Machinery AND BRICK MAKERS' SUPPLIES.



THE NEW QUAKER HORSE-POWER BRICK MACHINE,
Capacity 15,000 to 20,000 per day. Steam-power 25,000 to 40,000 per day.

Spiral Pug Mills, Mold Sanding Machines, Molds, Barrows, Trucks, &c., &c. We contract to furnish
and Equip Complete Yards, Engines, Boilers, Shafting, Pulleys, Belting, &c., &c.
Send for illustrated Catalogue. Correspondence Solicited.

FLETCHER & THOMAS, Indianapolis, Ind.



Brick Machinery

Capacity 15,000 to 100,000.

Pug Mills, Crushers, Elevators, Etc.

Full Outfits a Specialty. Satisfaction Guaranteed.

ADDRESS

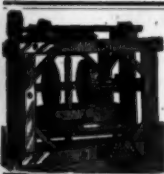
J. W. PENFIELD & SON

WILLOUGHBY, OHIO, U. S. A.

BRICK-MAKER'S SUPPLIES

TRUCKS MOLDS BARROWS MACHINES FOUNDRY WORK

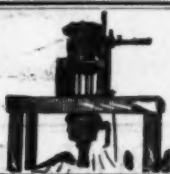
G. W. RAYMOND & CO.
DAYTON, O.



Brick and Terra Cotta Machinery

Steam Sewer Pipe Presses, Dry Pans
for Grinding Clay, Wet Pans for
Tempering Clay, Pug Mills
and Engines. Complete
Outfits.

STEVENSON & CO., Wellsville, O.



Chambers' Brick Machinery



15,000, 25,000, 50,000 per day Capacity.

GUARANTEED AND FURNISHED ON THIRTY DAYS' TRIAL.

CHAMBERS BROS. CO., Philadelphia, Pa.



Send for Illustrated Catalogue.

Mention Manufacturers' Record.

SEND FOR 1890 CATALOGUE

CALDWELL'S CONVEYORS

Supplies for
FLOUR MILLS, GRAIN ELEVATORS
COTTON SEED & LINSEED OIL MILLS
SUGAR REFINERIES, STARCH
CEMENTWORKS, RICE MILLS, ETC.

H. W. CALDWELL & SON
131 & 133
WEST WASHINGTON ST.
CHICAGO ILL.

MAST, FOOS & CO.
SPRINGFIELD, OHIO.
MANUFACTURERS



Strong and Durable. Will not Swell, Shrink, Warp or Rattle in the Wind.

BUCKEYE FORCE PUMP

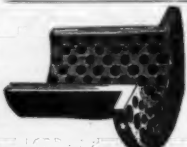
Works easy, and throws a constant stream. Has Porcelain Lined and Brass Cylinders. Is easily set. Is the Cheapest and Best Force Pump in the World for Deep or Shallow Wells. Never freezes in winter. Also manufacturers of the **BUCKEYE LAWN MOWERS**, Buckeye Wrought Iron FENCING, Cresting, etc. Write for Circulars and Prices.

BUY Cheapest FROM STEEL WRITE
MANLY MFG. CO. DALTON, GEORGIA.
RAILINGS, GATES, POSTS, CRESTINGS, JAILS, ROOFS, STAIRS, Lintels, Cast Columns, Sills, &c. All latest Saw Mills. Improvements.

T.K. EARLE MFG. CO.

 PATENT
NEEDLE POINT
CARD CLOTHING.
 AND ALL OTHER VARIETIES
 WORCESTER, MASS.

Bobbins, Spools, Shuttles,
 AND ALL MANUFACTURERS' WOOD SUPPLIES
 AND SPECIALTIES IN MILL TRADE.
The GREENE & WOOD MFG. CO.
 NEW BEDFORD, MASS.



OILLESS BEARINGS.
 They will run for years without oil. Perfectly clean. No cutting or danger of fire from overheating. Send for New Circular of interest to users of Loose Pulleys.
 North American Metaline Co., 37 Bleecker St., N.Y. City.

W. A. RICHARDSON & CO.
 MANUFACTURERS OF STANDARD MEASURING
CLOTH FOLDERS AND COTTON WINDERS,
 For Print and Dye Works, Bleacheries, Cotton, Cingham, Delaine Mills, Etc.
 P. O. Box 204. **WORCESTER, MASS.**

ROMPTON 1888 OOL COMBS.
CROMPTON LOOM WORKS.
 WORCESTER, MASS.
 COTTON, WOOLEN, SILK.
 TAPE & CARPET LOOMS.

JACQUARD MACHINES.

We make a specialty of furnishing Jacquard Machines with harnesses already tied up, ready to draw in the warps. Also designs and cards. Send for estimates.

SCHAUM & UHLINGER.
 Successors to W. P. UHLINGER,
 Greenwood Avenue and Second Street, Philadelphia, Pa.

THE DENN WARPERS

WITH NEW DOUBLE LINKER,
 Makes the BEST WARP in use.

SEND FOR CUTS AND PRICES.

Single Linkers Altered to Double Linkers.

GLOBE MACHINE WORKS,
 FRANKFORD, PA.

ESTABLISHED 1873
WHITINSVILLE SPINNING RING CO.
 WHITINSVILLE MASS. USA
 MANUFACTURERS
 of SUPERIOR SPINNING
 AND TWISTER RINGS.

VAN WINKLE GIN & MACHINERY CO.
 ATLANTA, GA., and DALLAS, TEX.



MANUFACTURERS OF
COTTON GINS, FEEDERS,
 CONDENSERS AND PRESSES,
COTTON-SEED OIL MILLS,



SHAFTING, PULLEYS, WIND MILLS, TANKS, PUMPS, Etc.

Record Printing House,
 BOOKS. NEWSPAPERS. CIRCULARS. FINE CUT WORK
 PAMPHLETS. CATALOGUES. PRICE-LISTS. A SPECIALTY.
 Cor. Exchange Pl. and Commerce St.

The BEST COTTON-SEED OIL PRESS IN THE MARKET

Boxes Made Entirely of Steel.

CAPACITY:

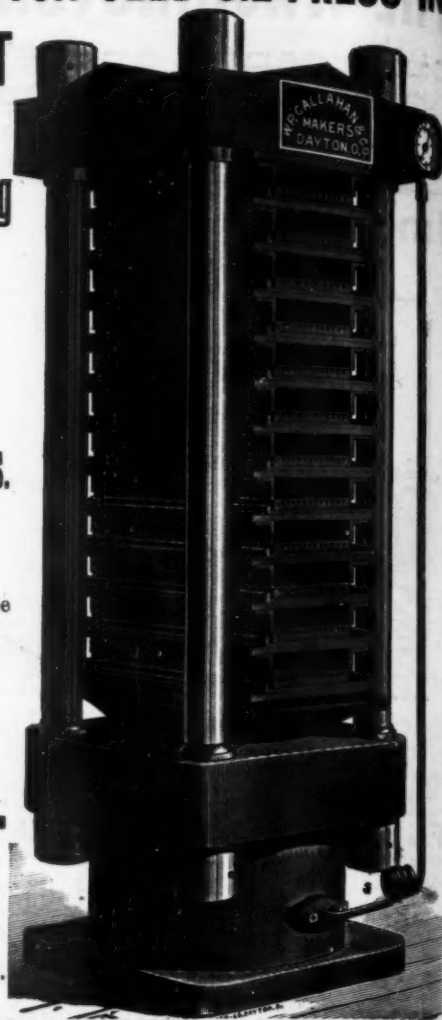
12 Tons in 24 Hours.

Parties contemplating the erection of Cotton-Seed Mills should address

W. P. Callahan & Co.

DAYTON,

OHIO.



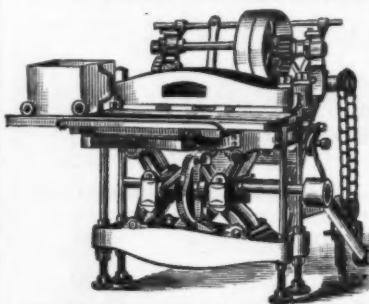
OIL MILL MACHINERY.

THE G. H. BUSHNELL CO.

Thompsonville, Conn.

MANUFACTURERS OF

Improved Cushing Rolls, Meal Heaters, Cake Formers, Hydraulic Presses, Belt Driven and Steam Hydraulic Pumps, Etc.



Cake Former or Moulding Press.

Parties having in contemplation the building or refitting of Oil Mills will do well to send for our circulars and prices.

IRON CLAD PAINT CO., Cleveland, O.

Factory, 75 & 77 Central Way. **JAMES WADE**, Sec. & Treas., 3 Case Bldg.

ORDER DIRECT FROM THE

Iron Clad Paint Co.

And get the genuine article, and save liability of suit for using an article made in violation of the patents issued to Wm. Green, and now owned by this Company.

IRON-CLAD PAINT is the most durable, most fire-proof and cheapest Paint made.

FURNISHED both Dry and Ground in Oil.

USED BY NEARLY ALL THE RAILROADS.



Trade Mark Patented Paint Patented.

Chattanooga Paint Company. CHATTANOOGA, TENN.

Manufacturers of the

«BEST OXIDE OF IRON PAINT MADE IN THE UNITED STATES.»

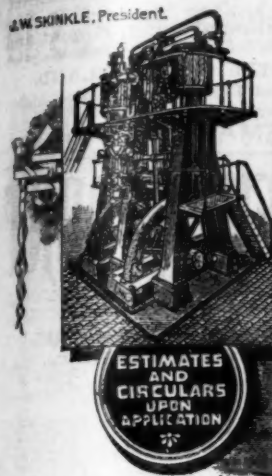
Over 18,000 tons made since 1880. 3,000 tons made in 1888. Over 500 certificates regarding its qualities. Either dry or mixed ready for use.

SEND FOR PRICES DELIVERED AT POINT OF DESTINATION

J. W. SKINKLE, President.

J. KOENIGSBERG, Secy.

LEO. RASSEUR, Vice Pres't.



**THE CONSOLIDATED
ICE MACHINE CO.**
MANUFACTURERS OF
**ICE MAKING
AND
REFRIGERATING MACHINERY.**
BRANCH OFFICES
N. 210 EAST 54TH ST.
NEW YORK
CITY
WORKS &
PRINCIPAL
OFFICES
WEST 18TH ST. VIADUCT
CHICAGO, ILL.

246 MACHINES

IN OPERATION

Making Ice—Refrigerating, Breweries, Packing Houses, Cold Storage Houses, Oil Refineries, Creameries, Hotels, &c.

BUY THE BEST AND SAVE MONEY.

All machines built by us are made to gauge and templet. Highest economy secured. Best results obtained. Machines in steady operation for more than ten years.

NO FAILURES.

Frigid Absorption Ice Machines,

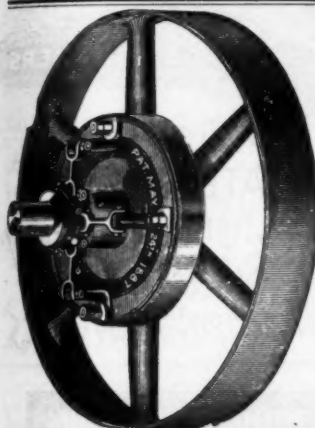
Latest Improvements and Greatest Economy.

BUILDERS OF HIGH-CLASS ELEVATORS,

Hydraulic, Steam and Hand-Power.

SULZER-VOGT MACHINE CO.,

MAIN, PRESTON AND WASHINGTON STREETS, LOUISVILLE, KY.

**The MOORE & WHITE CO**

1312 Buttonwood St., PHILADELPHIA, PA.

Friction Clutches, &c.

Cut-Off Couplings, &c.

Paper Mill

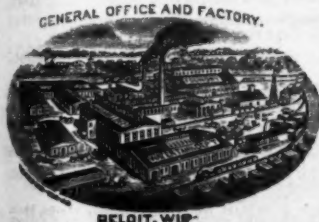
Machinery, &c.



COPYRIGHTED BY H. W. HILL, 1888.

**HILL
Clutch Works,
CLEVELAND, OHIO.**NEW YORK:
18 CONLANDT STREET.
CHICAGO: MINNEAPOLIS:
28 S. Canal Street. 306 Kasota Bldg
KANSAS CITY, MO.:
1221 Union Avenue.**POWER PLANTS**
Designed, Erected and Furnished.Send for new Catalogue, Power Trans-
mission Machinery.

Subscribe to the Manufacturers' Record.



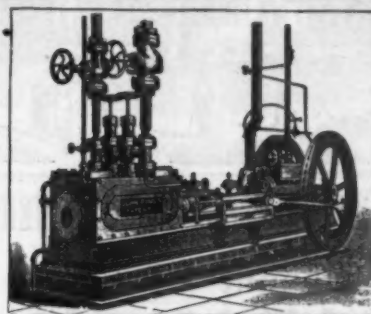
GENERAL OFFICE AND FACTORY.

BELOIT, WIS.

ECLIPSE FRICTION CLUTCH PULLEYS AND CUT-OFF COUPLINGS.

SEATTLE, WASHINGTON TER., 5 26, 1898.
Eclipse Wind Engine Co., Beloit, Wis.
DEAR SIR: The Clutch Pulley (diam. 106 in., face 21 in)
works satisfactorily in every particular, and is a great
convenience. We have two, and can stop either the main
saws or the gang edger, or both whenever desired, without
stopping the engines.
Yours respectfully,
Yesler Wood, Coal & Lumber Co.,
J. D. Lowman, Sec'y.**ECLIPSE WIND ENGINE CO., - Beloit, Wis.**

Send for July, 1889 catalogue, and see where and by whom they are

St. JOSEPH, MO., June 24, 1898.
Eclipse Wind Engine Co., Beloit, Wis.
GENTLEMEN: The Clutch Pulley reached us all right;
it works to a charm. If we had put it on last April, in
place of one we had, we should now be ahead over \$800,
which we have lost in time and breakages. Yours,
The Brick & Terra Cotta Mfg. Co.,
F. P. Halsey, Sec'y.FOR
Ice-Making and Refrigerating
MACHINERY,

Sizes 5 tons and upwards to 100 tons,

ADDRESS THE

Bine Refrigerating & Ice Machine Co.

OFFICE:

213 CHAMBER OF COMMERCE,
ST. LOUIS, MO.

L. H. BECK, President.

INO. CAREY, Secy. & Treas.

W. COOK, Superintendent.

ATLANTA MACHINE WORKS,

MANUFACTURERS OF

The Cook Improved Absorption Ice Machine

Boilers, Tanks, Smoke Stacks, Shafting, Hangers, Pulleys,
Saw Mills, Mill Gearing.

GOLD MINING AND STONE-WORKING MACHINERY.

ATLANTA, GA.

ICE MACHINE PAINT.

Made expressly for use on all surfaces of either wood or metal coming in contact with water, acids,
ammonia, heat or cold. A DURABLE PAINT AT REASONABLE COST.
METALLIC PAINT for Roofs, Barns, Fences and all Exposed Surfaces.
Write for circulars and prices. Manufactured only by**A. F. BOUTON & CO., 118 Gansevoort St., N. Y.****CHARLES BURGESS,**

MANUFACTURER OF ALL GRADES OF

CRUCIBLE TOOL STEEL

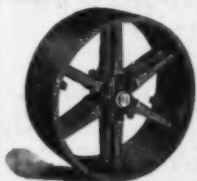
Including SELF-HARDENING STEEL for NAILERS', LATHE and PLANER TOOLS.

Warranted Equal to any Brand Made.

Extra Quality Cast Steel for Shims and all special tool purposes.

CYCLOPS STEEL WORKS, Titusville, Pa.

Menasha Hard Wood Pulleys.

We are sole makers of hardwood bent rim,
oak spoke arm Pulleys; gripped to shaft with
bolts, and using patent paper bushings. They
can be put onto shaft without taking it down
or cutting keyseats. No glue or nails used in
their construction. Hub with bushing fits
any size of shaft.
Also sole makers of only small Split Pulley
1 inch to 8 inches in diameter, in the market.
See above cuts of them. No glue or nails in
them. No Keyseats to cut. Also sole makers of only Hickory Hanger
in the market; it has iron box. Send for illustrated circulars and
discount.**MENASHA WOOD SPLIT PULLEY CO., Menasha, Wis.**Branch Houses: Hoen & Von Kapff, Baltimore, Md.; Lodge & Davis Mach. Tool Co., New York City;
H. N. Bates & Co., Boston; Chas. A. Turner, Pittsburg, Pa.; Greene & Wood Mfg. Co., Philadelphia;
W. D. Allen & Co., Chicago and Minneapolis; E. L. Cole, New Orleans, La.; Thos. J. Bell & Co.,
Cincinnati; L. M. Ramsey Mfg. Co., St. Louis.

The STILLMAN,

CLEVELAND, OHIO.

Cuisine and service equal to the best New York hotels. Business men and tourists will find "The Stillman" quiet, elegant and homelike. Caters to the highest class of patronage at reasonable rates. **ONLY FIRE-PROOF HOTEL IN CLEVELAND.** Every Room Heated by Steam and Lighted by Electric Light. Elegant suites can be secured by addressing
J. WARREN COLEMAN, Jr., Manager.



Hotel Fairmount

Hotel FAIRMOUNT

BRISTOL, TENN.

RECENTLY COMPLETED. A SUPERB HOSTELRY.

Large, Handsome, Well Built, Commodious and Well Ventilated Rooms. Broad Halls and Verandas. Elegantly Furnished. Equipped with Every Appliance that could add to the Comfort of its Guests.

The Fairmount is under the management of Mr. George L. Jacoby, who was manager of the Hotel Roanoke in its early and palmy days. It will be kept up to the highest showing of hotel excellence.

The Fairmount is on a hill in a beautiful park a short distance from the town center. In a few hundred yards is a large lake provided with bathhouses and boats.

It is preeminently the place for visitors from the South in summer, and from the North in winter. Bristol, like most of the mountain section of East Tennessee and Virginia, has a delightful climate the year round.

An orchestra is employed at the hotel permanently. For the convenience of commercial travelers, the hotel maintains a number of large sample rooms in the business center of the town. Street cars run to the hotel.

A comfortable, easy and elegant omnibus meets every train. Since it was opened, the Fairmount has done a constantly increasing business. Commercial men gather here from surrounding towns to spend Sunday. It is THE hotel of this rapidly growing town.

SOUTHERN PEOPLE, TOURISTS, TRAVELERS & BUSINESS MEN

SHOULD STOP AT

THE Beautiful and Elegant
* **"NIAGARA" HOTEL,**
Front and Porter Ave. **BUFFALO, N. Y.**

The Most Elegant Hotel in America. Situated commanding a beautiful view of Lake Erie and Niagara River. Spacious conservatory filled with rare exotics. Special rates made for parties remaining one week or longer. Hotel particularly well located for business men and the families. LATE DINNERS. MUSIC.

RATES—\$4.00 a day and upwards (American Plan.)

Telegraph for accommodations in advance at our expense.

HENRY F. ROESSER, Manager.

RYDER & DEARTH
DESIGNERS & WOOD ENGRAVERS
FINE COMMERCIAL PRINTERS.
PHOTO ENGRAVING IN ALL ITS BRANCHES.
Specialists in fine Machinery and general Wood Engraving. Portraits, Buildings, etc. Artistic designs in Letter and Bill Heads, Business Cards, Display Lettering for advertising purposes, etc. Best work. Lowest prices. Electrotyping at lowest rates. 91 WESTMINSTER STREET, PROVIDENCE, R. I.

STEEL ENGRAVING.

PORTRAITS for Genealogical, County and Town Histories A SPECIALTY. Also VIEWS of MANUFACTORIES and DWELLINGS. Twenty-five years' experience. Eminent references given.

J. A. J. WILCOX,
24 Boylston Street, Boston, Mass.

ESTABLISHED 1876.

BUDDEN AND SON,
10 & 12 W. WALL ST.
PRINTERS & BINDERS.
ATLANTA, GA.

ENGRAVERS.

Bonds. CERTIFICATES OF STOCK. LABELS. Office Stationery. SHOW CARDS & ADVERTISING NOVELTIES.

PRINTING PRESSES TYPE AND PRINTERS' MATERIALS OF EVERY DESCRIPTION.
THE JOHN RYAN CO.
BALTIMORE, MD.

AULT & WILBORG
PRINTING INKS.
CINCINNATI.
A&W INK USED ON THIS PUBLICATION.

BRANCH OFFICE,
152 and 154 Monroe Street, Chicago.



Issues Policies of Insurance after Careful Inspection of the Boilers, covering Loss or damage to property, and Loss of Life and Personal Injury

ARISING FROM STEAM BOILER EXPLOSIONS.

Full information concerning the plan of the Company's operations can be obtained at the COMPANY'S OFFICE, Hartford, Conn., or at any Agency.

J. M. ALLEN, President.
J. B. PIERCE, Secretary.

W. B. FRANKLIN, Vice-Prest.
F. B. ALLEN, 2d Vice-Prest.

BOARD OF DIRECTORS:

J. M. ALLEN, President.
FRANK W. CHENEY, Treas. Cheney Bros. Silk Mfg. Co.
CHARLES M. BEACH, of Beach & Co.
DANIEL PHILLIPS, of Adams Express Co.
RICHARD W. H. JARVIS, Pres. Colt's Fire Arms Mfg. Co.
THOMAS O. ENDERS, Pres. of the United States Bank.
LEVERETT BRAINARD, of The Case, Lockwood & Brainard Co.
GEN. WM. B. FRANKLIN, late Vice-Prest. Colt's Patent Fire Arms Mfg. Co.
NEWTON CASE, of The Case, Lockwood & Brainard Co.

NELSON HOLLISTER, of State Bank, Hartford.
HON. HENRY C. ROBINSON, Attorney-at-Law, Hartford.
HON. FRANCIS B. COOLEY, of the Nat. Exchange Bank, Hartford, Conn.
A. W. JILLSON, late Vice-Prest. Phoenix Fire Insurance Co., Hartford, Conn.
EDMUND A. STEDMAN, Treas. of the Fidelity Co., Hartford, Conn.
CLAPP SPOONER, Bridgeport, Conn.
GEORGE BURNHAM, Baldwin Locomotive Works, Philadelphia.
HON. NATHANIEL SHIPMAN, Judge U. S. Circuit Court.

Maryland, Department—**LAWFORD & McKIM,** Gen. Agents 23 S. Holiday St., Baltimore.

ELIAS EDMONDS, Attorney at Law

SAN ANTONIO, TEXAS.

Makes the Litigation of Land Titles a specialty. Will also Lend Money for non-residents upon the best real estate security.

ATLANTIC TRANSPORT LINE,
Between Baltimore and London
Calling at Swansea and Philadelphia on the outward passage.

S.S. Minnesota, 5,000 tons.	S.S. Missouri, 4,300 tons.
S.S. Maryland, 4,300 tons.	S.S. Michigan, (Bldg.)
S.S. Montana, 4,300 tons.	S.S. Mississippi, (Bldg.)
S.S. Maine, 4,150 tons.	

BALTIMORE STORAGE & LIGHTERAGE CO.
176 La Salle Street, Chicago, Ill.
and 135 Fenchurch Street, London.
409 Second Street, Baltimore, Md.

THE BAY LINE

Fortress Monroe, Norfolk and the South.
The Bay Line comprises the New and Elegant Steamers
"VIRGINIA," "CAROLINA" and "FLORIDA"
All the Comforts and Luxuries of a First-Class Hotel are afforded the traveler. Spacious and elegant saloons and staterooms, furnished with an especial view to comfort. Unsurpassed Cuisine, which is made a specialty with this line. Elegant service and courteous attention. Steamers leave Baltimore daily (except Sundays) at 9 P. M. The Old Point Comfort is located in the SLENDID HYGIEA HOTEL, a Delightful Resort at all Seasons of the Year. For Tickets and information apply at Company's office,
157 W. BALTIMORE STREET, BALTIMORE.
Or on Board of Steamers.
D. J. HILL, Superintendent.
E. BROWN, General Ticket Agent.

FAST TRAIN LINE.

Cleveland and Canton R. R. Co.

Newly Rebuilt to Standard Gauge.

New & Elegant Pullman Palace Cars.
Heated by steam from the locomotive.
No Stoves! No Danger from Fire!
Three fast trains each way daily between Cleveland and Canton.
Two fast trains each way daily between Cleveland and Zanesville.
No change of cars between Cleveland and Zanesville.

J. W. WARDWELL, Gen. Supt.
ALBERT ROKUSEK, Gen. Pas. Agt.

A CHOICE LIST OF SUMMER RESORTS.

In the Lake regions of Wisconsin, Minnesota, Iowa and the two Dakotas, there are hundreds of charming localities pre-eminently fitted for summer homes. Among the following selected list are names familiar to many of our readers as the perfection of Northern summer resorts. Nearly all of the Wisconsin points of interest are within a short distance from Chicago or Milwaukee, and none of them are so far away from the "busy marts of civilization" that they cannot be reached in a few hours of travel, by frequent trains, over the finest road in the Northwest—the Chicago, Milwaukee & St. Paul Railway:

Oconomowoc, Wis.	Clear Lake, Iowa.
Minocqua, Wis.	Lakes Okoboji, Ia.
Waukesha, Wis.	Spirit Lake, Iowa.
Palmyra, Wis.	Frontenac, Minn.
Tomahawk Lakes, Wis.	Lake Minnetonka, Minn.
Lakeside, Wis.	Ortonville, Minn.
Kilbourn City, Wis.	Prior Lake, Minn.
(Dells of the Wisconsin.)	White Bear Lake, Minn.
Beaver Dam, Wis.	Big Stone Lake, Dakota.
Madison, Wis.	

For detailed information, apply to any coupon ticket agent, or send stamp for a free illustrated guide book, entitled "Cool Retreats." Address A. V. H. Carpenter, General Passenger Agent, Milwaukee, Wis.

Look Carefully through this paper and you may find an advertisement of some machinery or other goods that you are in need of. Preserve this copy for future reference

VALLEY RAILWAY

Short and Only Direct Route Between

CLEVELAND, AKRON, CANTON,
MARIETTA and WHEELING.

Only line running Pullman Buffet Sleeping Cars between Cleveland, Washington and Baltimore without change. Ask for tickets via Valley and B. & O. Route.

J. T. JOHNSON, J. B. CAVEN,
General Supt. Gen. Pass. Agent.

The D & C TO MACKINAC

SUMMER TOURS.
—PLACE STEAMERS. LOW RATES.

Four Trips per Week Between
DETROIT, MACKINAC ISLAND/
Potoskey, The Soo, Marquette, and
Lake Huron Ports.

Every Evening Between
DETROIT AND CLEVELAND
Sunday Trips during June, July, August and
September Only.

OUR ILLUSTRATED PAMPHLETS,
Rates and Excursion Tickets will be furnished
by your Ticket Agent, or address
E. B. WHITCOMB, G. P. A., DETROIT, MICH.,
THE DETROIT & CLEVELAND STEAM NAV. CO.

Old Kentucky Route.

Newport News and Mississippi
Valley Co., "E. D."

The THROUGH SLEEPER ROUTE

— TO —
Lexington, Ky. Louisville, Ky.
Chattanooga, Tenn. St. Louis, Mo.
Memphis, Tenn.
And All Points West and Southwest.

Only one night out to Lexington and Louisville. A sumptuous Pullman Sleeping Car leaves Washington, D. C., at 9:40 P. M. daily, attached to the C. & O. F. V. train, and runs through to Louisville.
Be sure your tickets read via the N. N. & M. V. Co. and Lexington. Tickets via this route on sale at all C. & O. and P. R. R. stations.
S. A. BROMBERG, T. P. A. J. L. MURPHY, G. P. A.
Lexington, Ky. Lexington, Ky.
J. D. VARRINGTON, ad V. P., Lexington, Ky.

The Shenandoah Valley Illustrated.

The Shenandoah Valley Railroad Company issue a finely illustrated circular descriptive of the Valley of Virginia, famed from the days of Spotswood and the Horse-shoe Knights, and made historic by the deeds of Jackson, Sheridan and other great military chieftains of the late war. The book is a chronicle of a leisurely journey through the uplands of Virginia, with running descriptions of the caverns of Luray, the Natural Bridge and the Grottoes of the Shenandoah. Hardly a road of the famed valley is lacking in historic associations, and the map accompanying the publication will guide the visitor to the more famous spots. Certainly, no more interesting region worthy of the attention of the tourist is to be found than the Valley of Virginia.

This company also issues a pamphlet known as the "Shenandoah Valley," and treats entirely upon the great natural resources awaiting development in the Shenandoah Valley of Virginia.

Copies mailed free upon application to
O. HOWARD ROYER,
Gen'l F. & P. Agt., Roanoke, Va.

THE BRADSTREET Mercantile Agency

WAS ESTABLISHED IN 1849.

Is the oldest and financially the strongest organization of its kind, working in one interest and under one management, with more capital invested in the business, and expends more money every year for the collection and dissemination of its information than any similar institution in the world. Its reports are considered in the light of a guide by both investors and those contemplating the granting of credit. In addition to a large corps of skilled employees, more than one hundred thousand correspondents contribute the result of their investigation and opinions. Subscriptions are annual, and may commence at any time the subscriber elects. Details as to prices and terms will be furnished upon applications.

CHARLES F. CLARK, President.
Baltimore Office—American Building.
M. KERSHAW, Supt.



PREMIER FLOUR

OF AMERICA.

Patapsco Flouring Mills.

ESTABLISHED 1774.

PERFECTION IN FLOUR.

PATAPSCO SUPERLATIVE PATENT,

THE PREMIER FLOUR OF AMERICA,

IS UNSURPASSED FOR BREAD, BISCUIT OR PASTRY.

ASK YOUR GROCER FOR

PATAPSCO SUPERLATIVE PATENT, PATAPSCO FAMILY PATENT
ROLANDO CHOICE PATENT, ORANGE GROVE EXTRA.

C. A. GAMBRILL MFG. CO.

Office, 214 Commerce Street, Baltimore, Md.

RICHMOND & DANVILLE R. R. CO.

(PIEDMONT AIR-LINE.)

THE SHORT AND DIRECT LINE FROM

Washington, D. C., and Richmond, Va.,

To Atlanta, Augusta, Columbia, Asheville, Raleigh, Greensboro, Salisbury, Goldsboro, Birmingham, Montgomery, Vicksburg, Shreveport, Mobile, New Orleans, Texas, Mexico and California, and the South and Southwest.

DOUBLE DAILY, SOLID TRAINS between Washington and Atlanta.
Pullman's Palace Buffet and Drawing-Room Sleeping Cars without change to Atlanta, New Orleans, Augusta, etc.
For maps, time-tables, rates of passage, freight, etc., apply to nearest Station Agent of the Piedmont Air Line, or to any Railroad Agent of principal lines North or South.
PEYTON RANDOLPH, General Manager. SOL. HAAS, Traffic Manager.
JAS. L. TAYLOR, Gen. Pass. Agent.



The East Tennessee, Virginia & Georgia R.V.
IS THE **SHORT LINE**
East and West, North and South.

Daily Sleeping Car Service Between

WASHINGTON and MEMPHIS,
WASHINGTON and NEW ORLEANS.

AND DOUBLE DAILY SERVICE BETWEEN

CINCINNATI and JACKSONVILLE
The Shortest Route. The Cheapest Route.

The Quickest Route. The Best Route.

B. W. WRENN, General Passenger and Ticket Agent, Knoxville, Tenn.
C. A. BENSCOTER, A. G. P. A., Knoxville, Tenn.
C. A. DESAUSSE, A. G. P. A., Memphis, Tenn.
CHAS. N. KNIGHT, A. G. P. A., Atlanta, Ga.
L. H. BELL, A. G. P. A., Selma, Ala.

Western Maryland R. R.

Short Freight Line to Westminster, Frederick, Taneytown and Hagerstown, Md.; Waynesboro, Chambersburg, Shippensburg, Hanover, Gettysburg and Carlisle, Pa.; also points on the Frederick Division P. R. R., Gettysburg & Harrisburg R. R., Harrisburg & Potomac R. R., Shenandoah Valley R. R., Norfolk & Western R. R. and connections, also route of

Great Southern Despatch.

All rail Fast Freight Line for Southern and Southwestern points, via Bristol, Tenn. Freight received in any quantity at Hillen Station, and in car loads at Fulton, Canton and Jackson's wharf. Shippers desiring information will be called on. Send postal card with address to

B. H. CRISWOLD,
G. F. A., Hillen Station, Baltimore, Md.

The Finest on Earth.

The Cincinnati, Hamilton & Dayton R. R. is the only line running Pullman's Perfected Safety Vestibuled Trains, with Chair, Parlor, Sleeping and Dining Car service between Cincinnati, Indianapolis and Chicago, and is the Only Line running Through Reclining Chair Cars between Cincinnati, Keokuk and Springfield, Ill., and Combination Chair and Sleeping Car Cincinnati to Peoria, Ill.

And the Only DIRECT LINE

between Cincinnati, Dayton, Lima, Toledo, Detroit, the Lake Regions and Canada.

The road is one of the oldest in the State of Ohio and the only line entering Cincinnati over twenty-five miles of double track, and from its past record can more than assure its patrons speed, comfort and safety.

Tickets on sale everywhere, and see that they read C. H. & D., either in or out of Cincinnati, Indianapolis, or Toledo.

E. O. McCORMICK,
General Passenger and Ticket Agent.

— TAKE THE —
Cleveland, Lorain & Wheeling R. R.

The Most Direct Route Between

CLEVELAND, OHIO,
and WHEELING, W. VA.

BEAUTIFUL SCENERY AND QUICK TIME.

No change of cars. For time cards, etc., address
OSCAR TOWNSEND, Gen'l Manager.

Wheeling & Lake Erie RAILWAY.

The New Through Line

Between Toledo and Bowerston, Pittsburgh, Marietta. Through Coaches between Toledo and Marietta. Through Sleepers between Pittsburgh and Chicago, and Day Coaches between Toledo and Pittsburgh, via Akron, Cuyahoga Falls, Kent, Ravenna, Leavittsburg, Warren, Niles, Girard, Youngstown, New Castle and Allegheny.

THE ONLY LINE RUNNING THROUGH

"BEAUTIFUL ZOAR"
A. G. BLAIR, Traffic Manager. JAS. M. HALL, Gen. Pass. Agent.



THE BUFFALO STEAM PUMP CO.
BUFFALO, N. Y. — MANUFACTURERS OF
STEAM PUMPS
FOR ALL DUTIES.

PUMPS

We manufacture direct acting Duplex and Crank and Fly Wheel Steam Pumps for all services. Brass Founders and manufacturers of Brass and Iron Body goods. Straightway valves, etc. Iron Pipe and Fittings and Mill Supplies. Boiler Feed Pumps a specialty. Address

THE JOHN H. MCGOWAN CO.

42, 44, 46 Central Ave., CINCINNATI, O. | Branch House, 1425 E. Main St., RICHMOND, VA.



HYDRAULIC JACKS.

BEST IMPROVEMENTS. MOST STYLES.

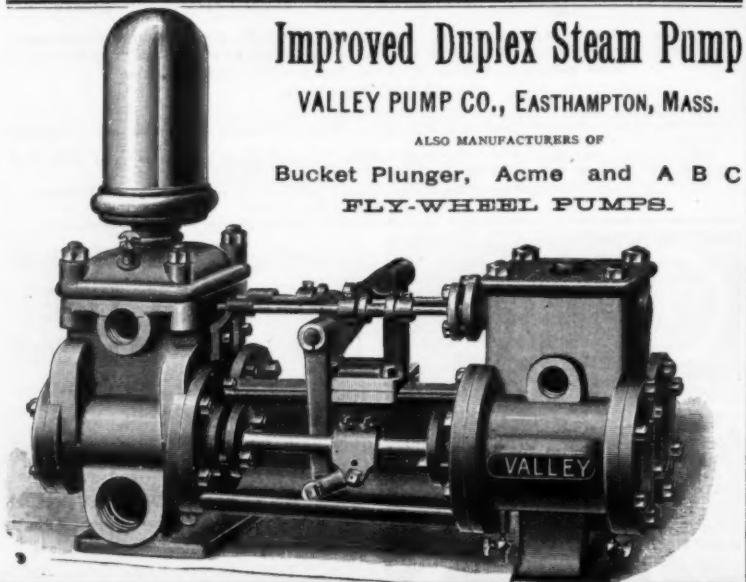
Hydraulic Presses, Hydraulic Pumps, Valves & Fittings,

Hydraulic Transfer Jacks for Removing Locomotive Drivers and Trucks.

LEVER PUNCHES and SHEARS.

WATSON & STILLMAN

204, 206, 208 & 210 E. 43d Street, New York.



Improved Duplex Steam Pump

VALLEY PUMP CO., EASTHAMPTON, MASS.

ALSO MANUFACTURERS OF

Bucket Plunger, Acme and A B C
FLY-WHEEL PUMPS.

ALLENTOWN FOUNDRY & MACHINE CO.

ALLENTOWN, PA.
MANUFACTURERS OF THE **IMPROVED EUREKA TURBINE**
FOR ECONOMY OF WATER WITH GREATEST EFFICIENCY



"THE BEST IN THE WORLD"

REPEATED TESTS AT HOLYOKE, MASS. GIVE IT 5 PER CENT

GREATER EFFICIENCY THAN ANY OTHER

WHEEL TESTED THERE. ITS USE IN MINING DISTRICTS

WITH SMALL AMOUNT OF WATER AND HIGH HEAD IS OF
THE GREATEST ADVANTAGE. OVER 800 NOW IN USE

SEND FOR CATALOGUE RUNNING MILLS, FURNACES, WATER WORKS, FACTORIES, MINES, ETC.

RODNEY HUNT MACHINE CO.

ENGINEERS, MACHINISTS, IRON and BRASS FOUNDERS.

TURBINE WATER WHEELS, Vertical and Horizontal.

IRON FLUMES and PENSTOCKS HE'D GATE GEARING, REGULATORS
and everything pertaining to Water Wheels and Mill Work.

These Wheels are superior for high power and efficiency, excellent work-
manship and great durability. Tight closing gate; easily operated.

64 inch wheel tested in mill after running two years.	3630
36 inch wheel at Holyoke Testing Flume.	3516
30 inch wheel at Holyoke Testing Flume.	3050
30 inch wheel at Holyoke Testing Flume (another wheel).	2789
30 inch (deep wheel) at Holyoke Testing Flume.	2861

PART GATE.

30 inch wheel at Holyoke Testing Flume.	3762
Proportional quantity of water, 781, one-half gate opening.	3763
Proportional quantity of water, 558, one-third gate opening.	3763

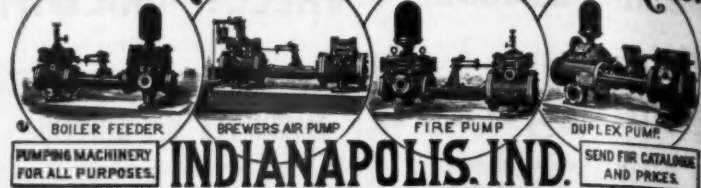
Used in many of the largest Manufacturing Establishments in the
United States. 6,000 horse-power furnished one mill, 7,000
to another, 2,000 in one cotton mill, and one man-
ufacturer 69 wheels. All now running.

CATALOGUE FREE.

BOSTON OFFICE: 70 Kilby Street. | **ORANGE, MASS.**

Advertise in the MANUFACTURERS' RECORD.

DEAN BROS. STEAM PUMP WORKS.



BOILER FEEDER
PUMPING MACHINERY
FOR ALL PURPOSES.

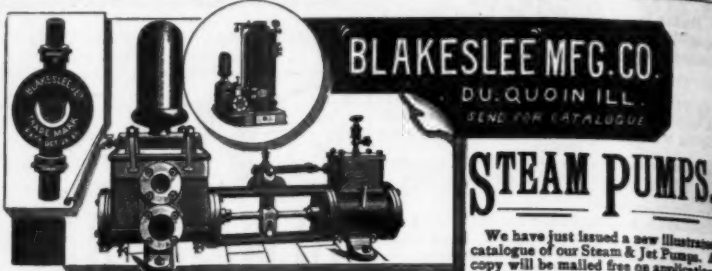
BREWERS AIR PUMP

FIRE PUMP

DUPLEX PUMP

INDIANAPOLIS, IND.

SEND FOR CATALOGUE
AND PRICES.



BLAKESLEE MFG. CO.

DU QUOIN, ILL.

SEND FOR CATALOGUE

STEAM PUMPS.

We have just issued a new illustrated
catalogue of our Steam & Jet Pumps. A
copy will be mailed free on application.

THE LAIDLAW & DUNN CO.



STANDARD
DUPLEX PUMP
AND BOILER
FEEDER

STANDARD
COMPOUND
STEAM PUMP

STANDARD
DUPLEX
STEAM PUMP

STANDARD
DUPLEX
STEAM PUMP

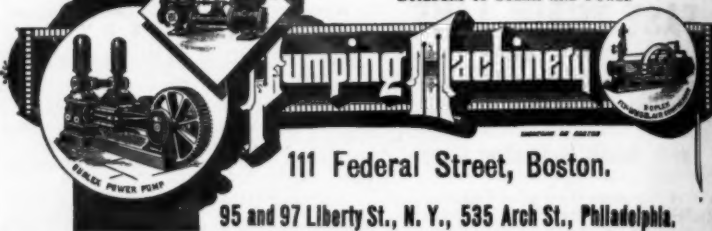
PUMPS OF EVERY
DESCRIPTION.

CINCINNATI, O.

SEND FOR
CIRCULAR.

GEO. F. BLAKE MFG. CO.

BUILDERS OF STEAM AND POWER



111 Federal Street, Boston.

95 and 97 Liberty St., N. Y., 535 Arch St., Philadelphia.



The Baldwinsville Centrifugal Pump.

OLDEST, BEST AND LATEST IMPROVED.

Especially adapted for contractors' use. Pumping
Coffer Dams, Sewers, Sand-Pumping, etc.

Irrigating Plants a Specialty. Address for catalogue,

IRVIN VAN WIE, 48 & 50 West St., Syracuse, N. Y.

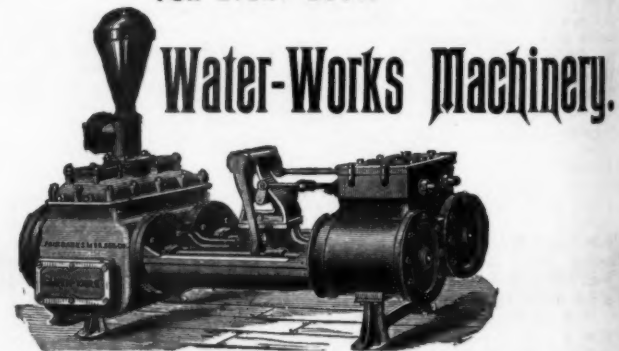
Established 1861. Removed to Syracuse 1881.

The Improved Smith & Vaile

SINGLE, DUPLEX AND COMPOUND

Steam Pumps

FOR EVERY DUTY.



Water-Works Machinery.

The SMITH & VAILE CO.

DAYTON, OHIO, and NEW YORK,

119 LIBERTY STREET.

EASTERN AND SOUTHERN AGENTS:

THOS. K. CAREY & BROS., 26 Light Street, - - BALTIMORE, MD.
G. W. STORER, 149 North Third Street, - - PHILADELPHIA, PA.
D. A. TOMPKINS CO., - - CHARLOTTE, N. C., and ATLANTA, GA.

VICTOR TURBINE

ON HORIZONTAL SHAFT.

SINGLE OR IN PAIRS.

DISPENSING ENTIRELY WITH GEARS.

Actual Test of the VICTOR in Toting Flume, Holyoke, Mass.

Size of Wheel.	Head in Ft.	Horse Power.	Per Ct. Useful Effect.
15-inch	18.06	36.17	.8932
17 1/2-inch	17.96	36.35	.8930
20-inch	18.81	49.00	.8512
25-inch	17.90	68.62	.8584
30-inch	11.85	92.54	.8676
35-inch	17.89	133.79	.8497
40-inch	16.49	148.93	.8253
45-inch	15.51	179.99	.8202

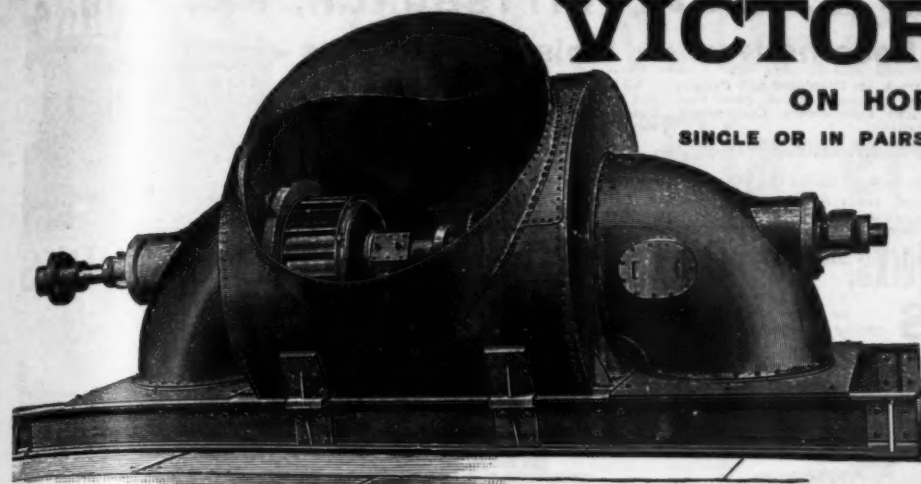
VICTOR WATER WHEELS, UPRIGHT OR HORIZONTAL, FINISHED ON SHORT NOTICE.

RECENT SOUTHERN PATRONS: Clifton Mfg. Co., Piedmont Mfg. Co., Camperdown Mfg. Co., Whitney Mfg. Co., Pelzer Mfg. Co., Euoree Mfg. Co., Henrietta Mills, Picolet Mfg. Co. and others.

State your requirements and send for catalogue to the

STILWELL & BIERCE MFG. CO.

DAYTON, OHIO, U. S. A.



ARTESIAN WELL PUMPS.

CAMERON STEAM PUMPS.

PUMPS FOR
BOILER-FEEDING,
MINES,
REFINERIES,
BREWERIES,
TANNERIES,
IRRIGATING,
FIRE PURPOSES,
RAILROADS and
FILLING TANKS,
CRANK and
FLY WHEEL
And VACUUM

SEND FOR
Illustrated Catalogue A.

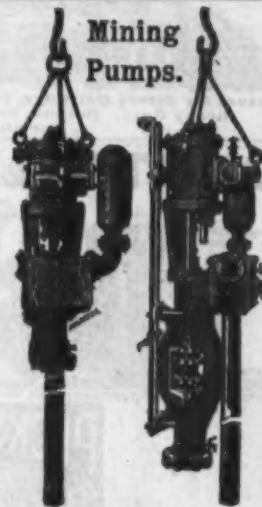
SIMPLE,
COMPACT,
DURABLE,
EFFICIENT.

ADAPTED TO
ALL PURPOSES.NO OUTSIDE
VALVE GEAR.

The A. S. Cameron Steam Pump Works,

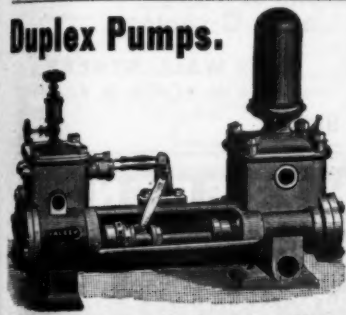
Foot of East 23d Street,

NEW YORK.

Mining
Pumps.

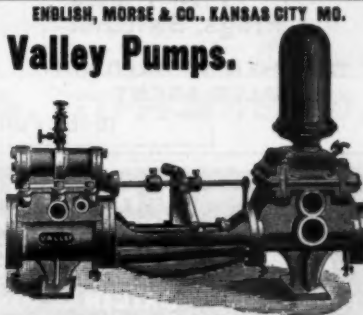
Piston Pattern. Plunger Pattern.

Duplex Pumps.



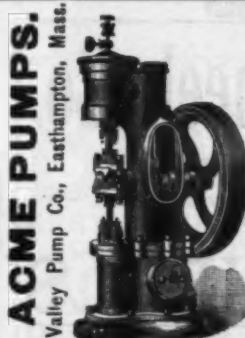
Valley Pump Co., Easthampton, Mass. Valley Pump Co., Easthampton, Mass.

Valley Pumps.



Valley Pump Co., Easthampton, Mass. Valley Pump Co., Easthampton, Mass.

ACME PUMPS.



Valley Pump Co., Easthampton, Mass.

BUCKET PLUNGER PUMPS.



Valley Pump Co., Easthampton, Mass.

A B C PUMP.



Valley Pump Co., Easthampton, Mass.



SILVER & DEMING MFG CO.
MANUFACTURERS OF
PUMPS
FOR
POWER HAND & WINDMILL USE.
ARTESIAN WELL PUMPS & CYLINDERS A SPECIALTY
SALEM, OHIO.

S. E. NOBLE, Pres.

JOHN E. WARE, Sec. and Treas.

R. F. CARTER, Supt.

THE

ANNISTON PIPE WORKS

ANNISTON, ALA.

MANUFACTURERS OF

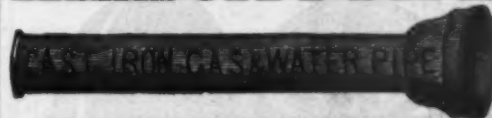
CAST IRON GAS & WATER PIPE

Special Castings, General Castings and Machine Work.

H. E. McWANE, President and General Manager.

W. D. CAMPBELL, Secretary and Treasurer.

THE CLAMORGAN COMPANY, Proprietors of HILL CITY PIPE WORKS



Manufacture all kinds of Blast Furnace, Coking and Mining Machinery, Boilers, Engines, Tramway and Construction Car Castings, and Tobacco Machinery, &c. Prices on application.

LYNCHBURG, VA.

CHATTANOOGA FOUNDRY & PIPE WORKS.

DAVID GILES, Pres. C. E. BEXTER, Vice-Pres. M. LEWELLYN, Secy. and Treas.

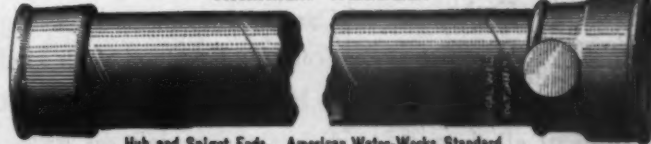
Successors to D. GILES & CO., Chattanooga, Tenn., Manufacturers of



Also Castings and Patterns of Every Description made to order.

SPIRAL WELD STEEL PRESSURE PIPES.

HAMMER WELDED.

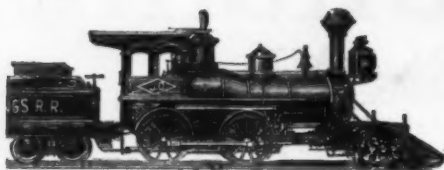


Hub and Spigot Ends. American Water-Works Standard.

Practical for Water, Gas, Steam or Air, under Light or Heavy Pressures. STRONGER, LIGHTER, CHEAPER than any other Pressure Tubes manufactured.

THE SPIRAL WELD TUBE CO., 43 John Street, New York.

COUPLINGS FOR ALL USES.

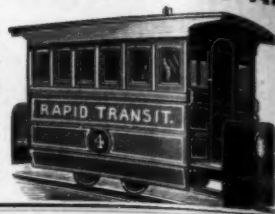
H. K. PORTER & CO., PITTSBURGH, PA., U. S. A.**Light Locomotives and Noiseless Motors**

All gauges of track for Passenger and Freight Service, Logging Railroads, Mines, Blast Furnaces, Steel Works, Coke Ovens, Contractors' Work and Plantations.

All sizes and patterns, adapted to steep grades and sharp curves. Noiseless and smokeless. Cheaper and more reliable and efficient, and less objectionable than electric or cable system.

Photographs and illustrated catalogue on application. In writing mention MANUFACTURERS' RECORD.

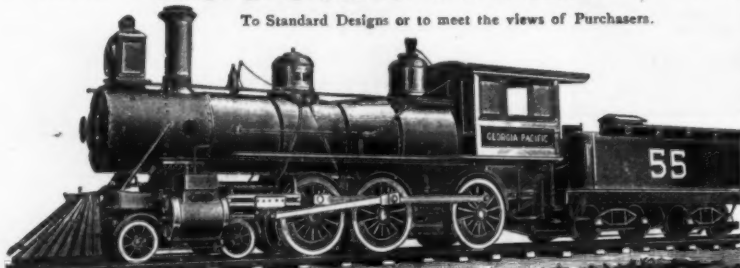
Memo.—All work STEEL FITTED and built to duplicate system. Extra parts kept in stock. We keep on hand, ready for immediate shipment, LOCOMOTIVES AND MOTORS OF SEVERAL SIZES, WIDE OR NARROW GAUGE.



Established in 1865. **Richmond Locomotive & Machine Works, RICHMOND, VA.**

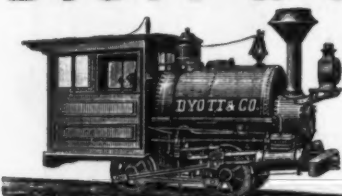
Builders of **LOCOMOTIVES** for every variety of service.

To Standard Designs or to meet the views of Purchasers.



Motors for Street Railways, Tram Roads and Mines. Stationary Engines for heavy duty. Boilers, Standard or Special. Send for Catalogues, Specifications and Estimates.

DYOTT & CO. 52 WALL STREET NEW YORK.

**RAILROAD EQUIPMENT**

AND SUPPLIES,
Locomotives, Cars, Rails,
FASTENINGS, SPIKES, ETC.

Frogs, Crossings, Switches, &c.

Securities Negotiated. Contracts Taken.

PECK'S PAT. DROP PRESS
BLAST FORGES
STEEL & IRON DROP FORGINGS.
Drop Dies and Special Machinery.
BEECHER & PECK, NEW HAVEN CONN.

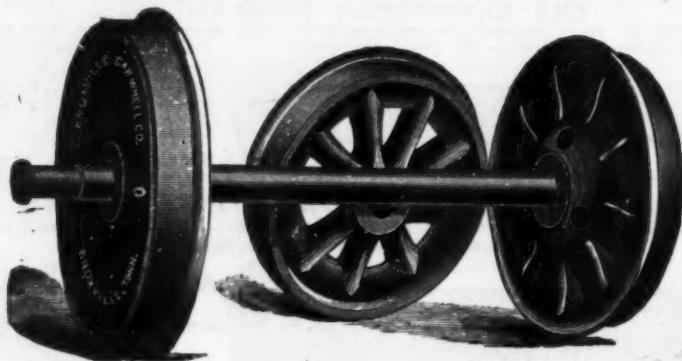
Knoxville Car Wheel Co.

—KNOXVILLE, TENN.—

Manufacturers of All Kinds of

CHILLED WHEELS

For Railroads, Street Railroad. Ore and Coal Mines, and Lumbermen.



Steam Hammers,
Steam Hoists,
Foundry Cupolas,
Derricks, Crabs,
Horse Powers,
Shieves, Drill Heads,
Gearing, Pulleys,
Bolts of all sizes,
Locomotives and Engines
Repaired and Indicated.
CORRESPONDENCE SOLICITED.

Steel and Iron Boilers,
Guild's Automatic
Boiler Cleaner,
Car and Locomotive Castings,
Soft Iron Castings of all kinds.
Heavy Castings a specialty.
Wheels mounted on Axles if
desired, with Oil Boxes
and Bolts.

MENTION THIS PAPER.

BALDWIN LOCOMOTIVE WORKS

ESTABLISHED 1831.



ANNUAL CAPACITY 100.

Locomotive Engines, Locomotives for Logging

Adapted to every variety of service, and built accurately to standard gauges and templates.

RAILROADS AND SUGAR ESTATES.

Steam Tramway Motors, Mine Locomotives, Furnace Locomotives.
Burnham, Parry, Williams & Co., PROPRIETORS. Philadelphia, Pa.

In writing, please refer to Manufacturers' Record.

STEEL RAILS**PENNSYLVANIA**

Standard Sections
Light Sections
Street Rails

Fish Plates,
Frogs, Switches

STEPHEN W. BALDWIN
SALES AGENT

STEEL COMPANY

50 to 80 lbs. per yard

16 " 45 " " "

30 " 88 " " "

Bolts & Nuts,
and Crossings.

NO. 2 WALL STREET
NEW YORK N.Y.

16 lbs. Full Size.



ALL GENUINE
INGOTS & MANUFACTURES
BEAR OUR
REG. TRADE MARKS.

Phosphor Bronze

PHOSPHOR-BRONZE

INGOTS, CASTINGS & MANUFACTURES.

THE PHOSPHOR BRONZE SMELTING CO. LIMITED

512 ARCH ST. PHILADELPHIA PA. U.S.A.

ORIGINAL MANUFACTURERS OF PHOSPHOR-BRONZE IN THE UNITED STATES AND OWNERS OF THE U.S. PATENTS.

STEEL CASTINGS

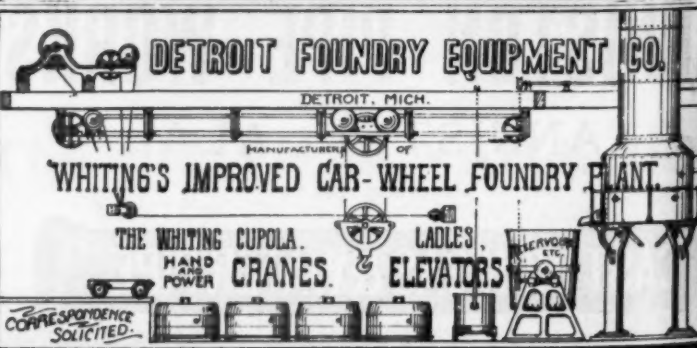
From 1-4 to 15,000 lbs. Weight.

True to pattern, sound, solid, free from blow-holes, and of unequalled strength. Stronger and more durable than iron forgings in any position or for any service whatever. 60,000 CRANK SHAFTS and 50,000 GEAR WHEELS of this steel now running prove this. CRANK SHAFTS and GEARING specialists. STEEL CASTINGS of every description. Send for circulars and prices.

CHESTER STEEL CASTINGS CO.

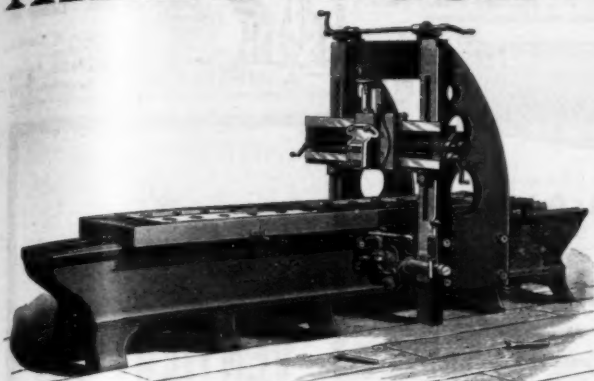
Office 407 Liberty St. Philadelphia

Works, Chester, Pa.



NILES TOOL WORKS, HAMILTON, O. Planers a Specialty.

NEW PATTERNS 1889.



Strictly First-Class. Moderate Prices. Perfection of Workmanship.

Positive Feed. Quick Return. Extra Heavy.

Large Bearings. The Smoothest Running Planers.

NEW YORK—98 Liberty Street.

PHILADELPHIA—705 Arch Street.

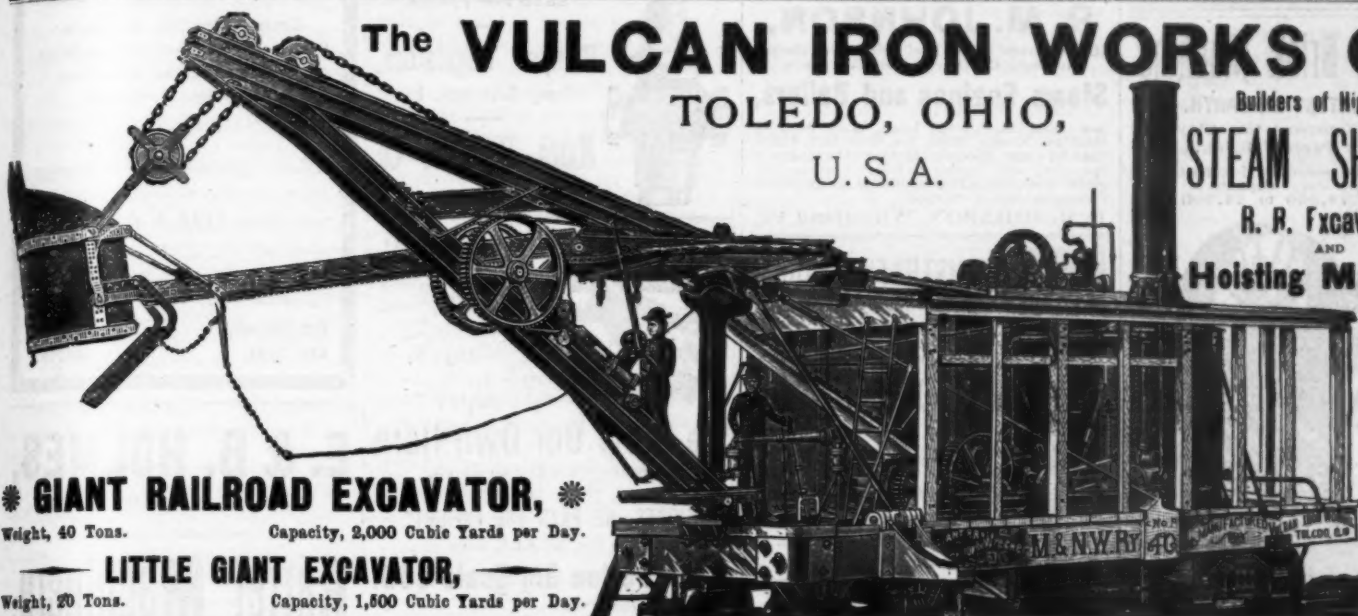
PITTSBURGH—Lewis Block.

CHICAGO—Phenix Building.

The VULCAN IRON WORKS CO.

TOLEDO, OHIO,
U. S. A.

Builders of High-Grade
STEAM SHOVELS,
R. R. Excavators
AND
Hoisting Machinery.



* GIANT RAILROAD EXCAVATOR, *

Weight, 40 Tons.

Capacity, 2,000 Cubic Yards per Day.

— LITTLE GIANT EXCAVATOR, —

Weight, 20 Tons.

Capacity, 1,500 Cubic Yards per Day.

Write for Photographs and
Descriptive Matter.
Manufacturers of a full line of Pile and
Ornamental Boiler Fronts and Fittings.

R HOOPES & TOWNSEND,

PHILADELPHIA, AND

The HOOPES & TOWNSEND CO.

WILMINGTON, DEL.

Cone, Button, Flat, Rose, Counter-Sunk, Button Counter-Sunk and Steeple Heads.

BOILER,

SHIP,

CAR,



STACK,

BRIDGE,

TANK,

COOPER

S RIVETS

BRADLEY AND HAMMERS FORCES

BEST HAMMERS IN THE WORLD RUN BY BELT
OVER 1500 IN USE. Three Styles, 15 lb. to 500 lb. Heads.
Our FORCES heat irons fast enough to keep Hammers
and Men fully employed. Send for Catalogue and Prices.
BRADLEY & CO., SYRACUSE, N. Y.
14 WARREN ST. NEW YORK. 96 & 98 SUDBURY ST. BOSTON.

UNION DRAWN STEEL CO.

COLD DIE, ROLLED STEEL AND IRON

* SHAFTING. *

Piston Rods, Pump Rods, Guides and Shapes.
OFFICE AND WORKS. BEAVER FALLS, PA.

THE WALKER MFG. CO. CLEVELAND, OHIO.

Engineers, Founders and Machinists,

BUILDERS OF IMPROVED CRANES of All Kinds.



12 Ton Rope Drive Power Traveling Crane.

We Solicit Correspondence relative to any work contemplated in this line.

Stuebner & Woods

MANUFACTURERS OF

**Self-Dumping Steel & Iron
Hoisting Tubs,**Side and Bottom Dumping
Cars for Coal Elevators,
Iron Wheelbarrows, Hoisting
Blocks, Bottom-dumping Tubs
for Coaling Locomotives, &c.

LONG ISLAND CITY, N. Y.

Send for circular and price-list.

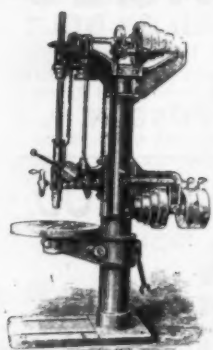
**SOAP & CANDLE
MACHINERY**
"THE
HONEST
HORSE
RACE"
A.W. HOUGHIN,
11 VINE ST.
BROOKLYN, N.Y.
SPECIAL
MACHINERY
DESIGNED.
CATALOGUES FREE**FINE SHOW CASES.**

Ask for catalogue.

TERRY M'F'G CO. NASHVILLE, TENN

The Chief Brick Machine.

THE CREATEST ON EARTH.

Grinds and Tempers the Clay and
Moulds Perfect Brick.Capacity of Steam-power Machine, 25,000 to
40,000 brick per day. Capacity of Horse-
power Machine, 18,000 to 22,000 brick
per day.Write for Catalogue to
The Anderson Foundry & Machine Works,
ANDERSON, IND.**DRILLING MACHINES,****Upright
AND
Radial Drills,
SINGLE COLUMN
Boring and
Turning Mills.
For catalogues and
prices address
Bickford Drill Co.
170 TO 180
E. FRONT STREET,
CINCINNATI, O.****ROLLER and
Detachable Chain Belting,**Detachable in Every Link,
FOR IMPROVED
**ELEVATORS,
CONVEYERS,
AND
Driving Belts
FOR HANDLING
Coal, Ores, Grain,
CLAY, BRICK, &c.
ADDRESS
The Jeffrey Mfg. Co.
121 W. State St., Columbus, O.**Also manufacturers of the
Jeffrey Electric Coal Mining
Machines, Coal Drills and
Haulage System. Send for
our illustrated (1890) cata-
logue.**POWELL & LOCKWOOD,****General Dairy Supply House,**

112 Chambers St., New York City.

Every Requisite for Milk, Butter and
Cheese Industries.

Write for Catalogue.

DAIRY MACHINERY

Complete Outfits a Specialty.

H. McK. WILSON & CO.

ST. LOUIS, MO.

Handsome Dairy Illustrated Catalogue mailed
free on application.**WHICH? BUTTER OR
CHEESE.**If either, or both, send for
**J. S. CARTER'S Illustrated
Catalogue**, which gives full in-
formation of latest and best method
and appliances for making Cheese
or Butter, from the largest fac-
tory to the smallest dairy.
Carter's Cream & Buttering
System of Butter Making is a success.
JOHN S. CARTER, Syracuse, N. Y.**R. M. JOHNSON,**Manufacturers' Agent and Dealer in Corliss,
Automatic Cut-Off and Plain Slide Valve**Steam Engines and Boilers,**Saw Mills, Machinists' Tools, Wood-Working
Machines, Mining, Brick, Ice, Grist Mill, Dairy,
Canning and Electric-Lighting Machinery a
Specialty; also Double Cylinder Traction En-
gines. Complete outfits supplied at lowest prices
Correspondence is solicited.**R. M. JOHNSON, Wheatland, Va.**

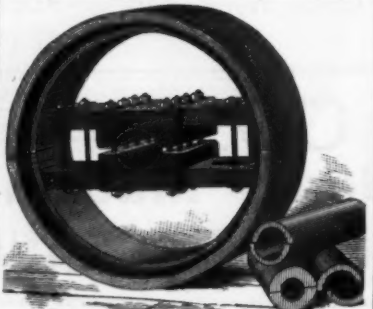
INDUSTRY FILE WORKS,
A. & H. GOUGH, Proprietors,
Manufacturers of

Files and Rasps

Equal to the best English File.
OLD FILES REOUT.
All kinds of J. b Grinding.
OFFICE AND WORKS,
48 Columbus St., Cleveland, O.
C. GOUGH, Manager.

SAVE MONEY.

BEFORE YOU BUY

BICYCLE OR TYPEWRITERSend to A. W.
GUMP & CO.,
Dayton, O., for
prices. New Bi-
cycles at re-
duced prices,
and 400 second-
hand ones. Dif-
ficult repairing. Bicycles, Guns and Typewriters
taken in Exchange.

PATENTED MAY 29, 1888.

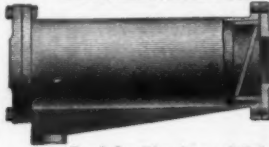
DOUBLE STRENGTH

WOOD SPLIT PULLEY,

MANUFACTURED BY

Chattanooga Wood Split Pulley Co. Chatt., Tenn.Subscribe to the MANUFACTURERS' RECORD.
Price \$4.00 a year, or six months for \$2.00.**Barnard's Separator**For Separating and Removing Entrained
Water from Live Steam;AND
Condense Water, Oil, Dirt, Etc., from Exhaust Steam.

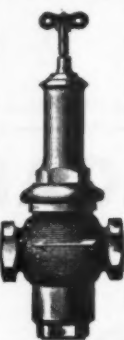
SPECIAL DESIGNS FOR SURFACE CONDENSERS.



Send for Circular and Prices.

GEO. A. BARNARD,

15 Cortlandt St., New York.

Reducing ValvesOurs are the Standard
used by the American and
Southern Cotton Oil Com-
panies and over 30 Rail-
roads.

SEND FOR PRICES.

Damper Regulators,

Pump Governors, Etc.

Mason Regulator Co.

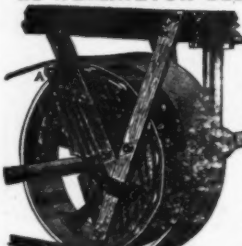
BOSTON.

**We Blow Our Own Horn**Because we have to do so,
and while you listen you can hear us say
"JONES, HE PAYS THE FREIGHT"
on the best SCALE made.**5-ton Cotton Gin Scale \$60.**

For terms and prices on the

UNITED STATES STANDARD SCALE.

Buy of your jobber or address

JONES OF BINGHAMTON, Binghamton, N. Y.**The WELLINGTON BELT HOLDER.****LATELY
IMPROVED.**
Just the thing
to shift large
belts driving
Dynamoes, Blowers,
Gins, Saws,
&c. Belt stops
and slackens
when machine
stops. Thousands
in use, cost
very low. Sent
on trial. Permit
us to quote you
prices.**W. R. SANTLEY & CO. Wellington, Ohio****TAPER-SLEEVE PULLEY WORKS**211 W. 12TH ST.
ERIE, PA.Manufacturers of
Taper-Sleeve Wood
Belt Pulleys, Adjustable
Dead Pulleys, Friction
Clutch Pulleys,
Friction ClutchCouplings, Wood
Pulleys in Halves,
Taper-Sleeve and
Compression Cou-
plings, Shafting, Post
and Drop Hangers.
Correspondence so-
licited.

Patented-Rev. P. H. W.

**BERNHARD DIETZ, Manufacturer of Printers' Rollers
and Roller Composition.** Factory, N. E. Cor. Grant
and Mercer Sts., Baltimore. Prices: Composition (bulk)
20 cents per pound; for casting, also 20 cents per pound.
Orders by mail promptly attended to.

SHEPARD'S New \$80 SCREW-CUTTING FOOT LATHE
Foot and Power Lathes, Drill
Presses, Scroll Saw Attachments,
Chucks, Mandrels, Twist Drills,
Dogs, Calipers, etc.
Lathes on trial. Lathes on
payment.
Send for catalogue of Outfits
for Amateurs or Artisans.
Address **N. L. SHEPARD, Agent,**
134 E. 2d Street, Cincinnati, Ohio.

USE THE

**STAR VENTILATOR**

FOR THE

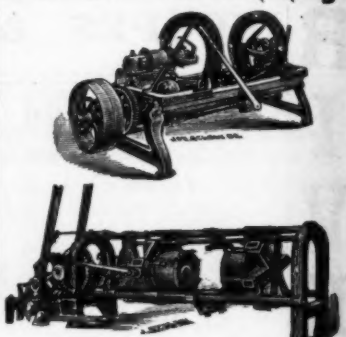
VENTILATION

OF

Churches, Public Buildings, School-
Houses, Theatres, Residences;
Cotton, Woollen and Carpet Mills,
Machine Shops, Foundries,
Breweries, Stables, &c.Upon application we will furnish a
Blue-Print sketch showing detail and
uses of the **STAR VENTILATOR.****MERCHANT & CO.**PHILADELPHIA.
NEW YORK.CHICAGO.
LONDON.**E. & B. HOLMES,**

BUFFALO, NEW YORK,

MANUFACTURERS OF

Barrel Machinery.**Chambers Patent Barrel Heater.**Capacity 300 tight or 500 slack barrels per day.
The best Heater made.**E. & B. HOLMES, Sole Agents.****WIRE RAILING**

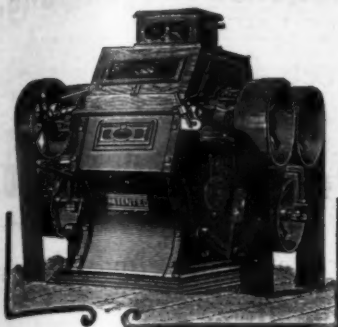
and Ornamental Wire Works.

DUPUR & CO. 113 & 115 N. Howard St., Baltimore.Wire Railing for Cemeteries, Lawns, Gardens, Os-
tles and Balconies; Window Guards, Tree Guards,
Wire Cloth, Sieves, Fenders, Cages, Saws and Coal
Screens, Iron Bedsteads, Chairs, &c.**New Model Hall Typewriter.**The BEST STANDARD TYPEWRITER in
the world. Cheap, portable, no ink ribbon, inter-
changeable type in all languages, easiest to learn
and rapid as any. Agents wanted everywhere.
WARRANTED AS REPRESENTED. Send for Cata-
logue and Specimens of Work. Address**NATIONAL TYPEWRITER CO.**

10 Temple Place, Boston Mass.

P. O. Box 539.

Read What a New York Miller Says of the Case Company.



OFFICE OF PETER SNYDER,
DEALER IN FLOUR, FEED AND LUMBER,

MANLIUS STATION, N. Y., October 28, 1889.

The Case Manufacturing Company, Columbus, Ohio:

GENTLEMEN: After running my mill over two months, I feel it my duty and in justice to you to state that I am more than pleased with the mill you built for me. It started like a clock "from the word go". My flour is discounting the fanciest brands of flour in the market. My clean-up is equal to any mill in the State. I will say that the Case Rolls and Flour Dressers cannot be beaten in the world for light running and ease of access to all their parts. I would advise any miller building a new mill or remodeling an old one to place their contract with the Case Company.

Thanking you for the prompt and efficient manner in which you furnished my machinery in so short a time, after so great a loss and damage by fire burning your works, and with the best of wishes I remain,

Yours respectfully,

PETER SNYDER.

For full particulars regarding the best FLOUR OR CORN MILL MACHINERY, address



THE CASE MANUFACTURING CO., Columbus, Ohio.

TRADE NOTES.

THE agency for the engines and other manufactures of the Valley Iron Works, machinists and founders at Williamsport, Pa., which formerly was in the hands of W. H. Brundige & Co., at Chattanooga, Tenn., has been transferred, by a new business arrangement, to the Casey Boiler Manufacturing Co.

A NEAT catalogue is just at hand from the New England Steam Cooperage Co., of 150 State street, Boston, manufacturers of tanks, vats, cisterns, reservoirs, casks, barrels, kegs and all kinds of cooperage work. This catalogue tells briefly of a very large business in this line, and will be a valuable book of reference in any manufacturing establishment. The company makes a specialty of special work and large jobs.

F. E. MYERS & BRO., of Ashland, Ohio, send us an exceedingly attractive catalogue of their pumps, hay tools and other manufactures. This firm is believed to be the largest one in the country in the exclusive manufacture of these products. The catalogue is most profusely illustrated, and shows an unlimited variety of pumps in every shape, size and kind. The great demand for the Myers' pumps has necessitated the recent building of a large factory. This factory is fitted with every convenience and facility for the manufacture of these special goods, and has been taxed to its utmost capacity since being occupied. The factory has a most complete equipment, and the goods manufactured are of the latest designs and style. For large jobs and other dealers in this class of goods, such a complete catalogue as this is a necessity for ready reference. With the improved methods of farming now being introduced in the South, the hay tools manufactured by this firm will be found almost indispensable for economic work.

A VERY finely printed catalogue is at hand from J. W. Penfield & Son, of Willsborough, Ohio, descriptive of their clay-working machinery. Their list includes one of the largest line of crushers extant. The machines are made in various sizes and varieties to suit all purposes and all capacities. The desire of the manufacturers is not to produce cheap machinery, but the best machinery. This catalogue describes all the latest improvements made by this firm, and shows that their machines are all up to date in working powers and methods of construction. Every clay-worker will find it to his advantage to have one of these very attractive catalogues in his office for convenience for ready reference.

THAT enterprising concern, the Egan Co., of Cincinnati, whose two-drum sand-papery machine is so widely known, has now brought out a machine with three drums. Being something new, it has features not found in others.

THE Seaton Manufacturing Co., of Cleveland, Ohio, sends out a very neat illustrated catalogue, bound in flexible cloth, of their bolt headers, rivet machines, upsetters and other manufactures. The Seaton machines are well known in the metal trade, having been in constant use for many years. This catalogue illustrates and describes the machines and their latest improvements. Only the best of materials are used in the construction of these machines, and would be purchasers of this class of machines will do well to examine one of these catalogues.

GENERAL Manager Metcalf of the Louisville & Nashville is improving his passenger equipment by the addition of 13 new palatial coaches. They are under way at the Ohio Falls Car Co. and the Harlan & Hollingsworth Co.'s shops, and will be models of comfort and elegance. The seating—the most important item as to comfort—is furnished by Scarritt Furniture Co., St. Louis. This new equipment will run between New Orleans and St. Louis on the through Pullman Vestibule Line.

ONE of the pioneer manufacturers of machinery in the South under the new regime is the Van Winkle Gin & Machine Co., of Atlanta, Ga., and Dallas, Texas, manufacturers of cotton gins, feeders, cotton-seed oil mills, presses, condensers, cotton cleaners, saw mills and other machines in constant demand throughout the South. This company has just issued a handy illustrated catalogue, a copy of which is just at hand. Manufacturers and others should send for a copy.

THE Pope Manufacturing Co., of Boston, Mass., makers of World typewriters, has published a handsome colored lithograph suitable to display in door, window, office, or elevator, announcing the hour for closing for Saturday, and also for the other weekdays. By an arrangement of stickers, any hour can be posted. They also have a "Will Return" card with a clock face and movable hands, by which the business man can inform his customers of the hour of his return. These cards are sent free upon receipt of stamp. Address Typewriter Department, Pope Manufacturing Co., 77 Franklin street, Boston, Mass.

MESSRS. H. S. JACKSON & CO., iron and steel factors and dealers in general supplies, Nashville, Tenn., have recently completed arrangements with the Shelby Rolling Mill Co., manufacturers of merchant bar and light T rails, at Helena, Shelby Co., Ala., for the sale of their iron throughout the Southern States. The mill was but recently completed, and is now running on the guide mill, making all sizes up to 1½-inch round and 2-inch flats. They are putting a new engine in the bar mill. As soon as this can be put in running order they will furnish larger sizes. The mill is making about 25 tons of iron per day at present, which they expect to dispose of in the Southern territory.

A NEAT calendar for June is sent out by the Universal Radial Drill Co., machine tool builders at Cincinnati, Ohio. On the front of the card is a cut of their foot-lever counter-sinker, and on the back a fine picture of their factory.

Literary Notes.

THE DEVELOPMENT OF THE PHILOSOPHY OF THE STEAM ENGINE—an historical sketch by Robert H. Thurston. Published by John Wiley & Sons, 15 Astor place, New York.

This neat little cloth-bound volume of 48 pages tells briefly but in an interesting and not too scientific way the story of the development and construction of the steam engine. The theory of the steam engine is far from complete yet, but this volume gives it in its completeness up to date. To the student who seeks to comprehend the subject this volume will be very interesting and instructive. The subject matter is built upon the basis of a paper read by the author before the British Association for the Advancement of Science at the meeting in Montreal in 1884.

BIG STONE GAP VIRGINIA, is most comprehensively described by Prof. John R. Proctor in a handsomely printed pamphlet just at hand. It is issued by the Big Stone Gap Improvement Co. The resources of the region described are set forth in clear and forcible style. The illustrations are of the very best process cuts and finely printed.

THE Popular Science Monthly for June has its usual list of standard and instructive articles. The list of contents includes the following: New Chapters in the Warfare of Science.—VIII. The Antiquity of Man and Egyptology. Glass-Making.—IV. In the Atelier of a Glass-Worker.—illustrated. Atmospheric Dust. On Justice.—concluded. Evidences of Glacial Action in Southeastern Connecticut.—illustrated. Utility in Architecture. Education and Crime. The Affirmative Side of Agnosticism. Tin and Its Native Land.—illustrated. Animal and Plant Lore, III. Natural and Artificial Cements.—illustrated. Sketch of Theodor Schwann—with portrait. Correspondence. Editor's Table. Literary Notices. Popular Miscellany and Notes.

In its June number the New England Magazine has an article on Athens, Ga., the birthplace of Henry Grady, in which will be given much that is of interest pertaining to the early life of this eloquent and much-lamented son of the South. In addition to the pictures that illustrate this article, there are in fac-simile two manuscripts of Grady's that give a picture of the inner life of the boy and the man. Other articles are: Columbia College.—illustrated. Decoration Day Thoughts. An Old Battle-field. Stories of the Fugitive Slaves.—III. Sims. The Prairie Farmer. The Great Dorr War.—illustrated. The Home of Lydia Maria Child.—illustrated. A Woman of Shawmut.—I. Why I Married Eleanor. Doubt. Brothers. Is Agriculture Declining in New England? Tree Culture. From June to June. Oklahoma and the Indian Territory. The Arrer an' Heart. Tarry at Home Travel. How John Endicott Cut the Red Cross from the

Flag. State Aid to Higher Education in New England.

LIPPINCOTT'S MAGAZINE for June is an eminently readable number. The complete novel contributed by Mary E. Stickney is entitled "Circumstantial Evidence." Robert Kennaway Douglas has an interesting article upon "The Origin of Chinese Culture and Civilization." R. H. Stoddard has an interesting paper on George Henry Boker. Robert Burns Wilson has an appropriate poem, "Lee; a Chant of Remembrance." Arthur Goddard writes upon "Fiction for the People." Jeannette L. Gilder contributes an amusing character sketch entitled "Joy," and Agnes Repplier has an essay upon "Reality in Fiction." The first instalment of an entertaining series, called "Round-Robin Talks," appears in this number. Julian Hawthorne, Max O'Rell, John Habberton, Edgar Fawcett, J. Armoyn Knox, Wm. S. Walsh and Maurice Barrymore are among the well-known characters who figure in this first instalment. Poems are contributed by M. H. G., Frank Dempster Sherman, and Florence Earle Coates.

Morristown, Tenn.

Morristown will in a short time enjoy exceptional railroad facilities. It is on the main line of the East Tennessee, Virginia & Georgia Railroad, and is the terminus of the Asheville (N. C.) Railroad, connecting with the great Richmond & Danville system. The Chicago, Cumberland Gap & Charleston Railroad, on which work is now progressing, will have Morristown on its route. The Morristown & Cumberland Gap Railroad, on which work will soon begin, will give Morristown direct connection with the great trunk lines going north and northwest.

Morristown is the county seat of Hamblen county, and is surrounded by a large section of the most productive agricultural country in East Tennessee, of which she is the trading center. Her public buildings and business houses are mostly substantial modern buildings. She has two flouring mills, capacity 350 barrels per day; brick works, marble works and stove foundry. A manufacturing company with \$250,000 capital has purchased 25,000 acres around Morristown, and are putting up an immense woodworking establishment and marble works. It has a prosperous building and loan association and agricultural implement manufactory, two banks, two fine hotels, courthouse, opera-house, wood-working establishments and various smaller industries. The town is lighted by electricity. A contract has been let and machinery ordered for water works, and during the present year a street railroad will be built.

The building of the Morristown & Cumberland Gap Railroad will give Morristown an impetus in the building and improvement line and will introduce manufacturing industries. The superiority of the location of Morristown as a manufacturing center has long been conceded, but until recently no effort has been made to establish manufactures there. She is surrounded by large and rich mines of iron, coal, lead and zinc, extensive marble quarries and vast tracts of timber lands.

The fact that her citizens are thoroughly alive to the best interests of Morristown was proven when, a few days ago, she voted a subscription of \$50,000 to the Morristown & Cumberland Gap Railroad without a dissenting vote.—Middlesborough News.

The Markets.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, June 4, 1890.

Considerable attention is now being directed to the Southern pig iron interests. Notwithstanding all that has been said in regard to production and prices, there are parties in Northern markets who are inclined to believe that Southern iron is likely to advance; and some of these parties have instructed their agents to ascertain the best terms upon which supplies could be contracted for to be delivered at their option, between now and the end of the year. It is not, as yet, known whether the managers of Southern furnaces have made any better terms than have been recently quoted. The effect of these inquiries has been to create a more hopeful feeling throughout the South; a number of the offers recently received have been declined. One thing it is safe to say, viz: that very little, if any, iron can now be bought at the lowest quotations named a month ago. The Southern iron makers are convinced of the fact that there is a heavier and more constant demand in Northern markets than they had counted upon. Besides this, it is now ascertained that a great many of the Southern furnaces are oversold, and this makes managers less inclined to talk long time contracts. Cincinnati and St. Louis parties representing Northern buyers are preparing to make long contracts, provided prices suit, but it is scarcely probable that very heavy business of this character will be closed during June. No. 1 foundry iron is quoted at \$12 to \$12.50 at Chattanooga; \$14.50 at Louisville, and \$15.50 at St. Louis. At Pittsburgh, Ohio irons are quoted at \$15 to \$15.50; Bessemer, \$17.50 to \$18. Crude iron is showing increased firmness in nearly all markets, and it is now taken for granted by both representative buyers and sellers, that there will be some large contracts placed for the last half of the year during this month. It certainly is a safe policy to make long contracts at present prices. The output of crude iron, large as it is, seems to be no more than sufficient for the country's requirements, and any sudden demand will probably harden, or even advance prices. Heavy consumers are recognizing these facts, and placing orders accordingly. A good deal of business has been done recently in Western Pennsylvania. The Ohio furnace managers are in receipt of numerous inquiries. The heavy consumption is strengthening the views of makers everywhere. Chicago quotations for Northern coke iron are \$16.50 to \$17.

Merchant iron and merchant steel are meeting with somewhat better demand, owing to the preparations which large consumers are making for their requirements during the remainder of the year. Should this movement become general, it is quite probable that prices will advance a little, a result which manufacturers of iron and steel will hail with delight. An active demand continues for sheet iron, skelp, and wrought-iron pipe. Plates and tubes are under active inquiry in Western markets. Throughout the East there is a fair degree of activity, but no rushing demand has yet set in. New York markets are strong. Foreign material is dull; inquiries are in hand for speigleisen and ferro-manganese, but no heavy contracts have been placed. Billets are quoted at \$30 at mill, and buyers are offering \$29. Wire rods are quoted at \$38@40 at mill. Sales of steel rails so far this year foot up 1,020,023 tons, according to the report of the Board of Control. Deliveries up to May 1st, 464,211 tons. A great many old rails are wanted throughout the interior, and the supply is deficient. Inquiries were received at New York and Philadelphia late last week for large lots of structural iron for bridge-building purposes, and manufacturers state that from

present prospects the entire bridge iron making capacity will remain oversold from one to two months throughout the year. Taking the iron trade all through, prices are a little firmer, and in some cases higher than last week.

HARDWARE.

We have to report a somewhat better condition of the market as regards volume of business, as the Southern buyers are beginning to arrive and are placing their orders for good quantities in some lines. Prices remain as before, and we do not think any change can be looked for prior to July 1st.

E. C. WORRELL, Murfreesboro, N. C., desires the address of hoop consumers.

AMERICAN

Pig Iron Storage Warrant Co.

(Bank of America Building.)

44 Wall Street, NEW YORK.

Correspondence of Furnaces Invited.

NASHVILLE RAPID TANNING AND BELT MANUFACTURING CO.

Manufacturers of Oak Tanned and Rawhide Leather Belting, Lace Leather, Picker Leather, Ropes, Lariats and other Rawhide Leather Goods. NASHVILLE, TENN.

DIXON'S Silica Graphite Paint.

DURABLE AND BEAUTIFUL. Unaffected by heat or cold, dampness, salt air, rust, or even acids. For smoke stacks, boiler fronts, tin roofs, or metal work, this Paint is far superior to anything made. For details send for circulars. Joseph Dixon Crucible Co., Jersey City, N. J.

PICKANDS, MATHER & CO. Pig Iron, Iron Ore and Coal.

Perry-Payne Building, CLEVELAND, OHIO.

For one dollar, currency or stamps, we will send to any part of the United States, express charges paid, our perfect Grease Cup. It is eight feed, and forces all the grease out of the cup without being touched. We send sufficient grease for trial. The cup is well finished, and is an ornament anywhere. One cup of grease will do the work of six cups of oil. For to see pulleys, crank pins, etc., it has no equal. CRESCENT MFG. CO., Cleveland, Ohio.

EDWARD ALLEN, Practical Lead Burner

BALTIMORE, MD. Sulphuric Acid Chambers constructed on the latest improved plan. Strict attention given to the Lead Work of Concentrating Apparatus. P. O. BOX 84. ESTIMATES FOR THE ABOVE GIVEN.

FRUIT EVAPORATORS.

Particulars Free. Six Sizes.

Adapted for Factory Plants, Farmers, Grocers, Fruit Dealers, Storekeepers, &c.

EVERY DETAIL FURNISHED. STATE CAPACITY WANTED.

The Prices Range from \$25, \$50, \$75, \$175, \$350 to \$1,000 and upwards.

Order early. If any delays occur it will be in our busy season. There is money in the use of an evaporator. Address

AMERICAN MFG. CO. Waynesboro, Pa., Box E.

Philadelphia Warehouse Company,

No. 235 Dock Street, Philadelphia.

CAPITAL, \$1,000,000, FULL PAID.

This Company makes advances upon Pig Iron stored at Furnaces (storage charge being nominal) or in Public Warehouses, upon reasonable terms, Particulars upon Application.

F. M. POTTS, Sec. and Treas. R. H. PILE, Superintendent. BEAUVEAU BORIE, Vice-President. HARRY F. WEST, President.



The "Original Candy" Sewed Cotton Duck Belting. Especially adapted for Main Drivers, Saw Mills, Cotton Gins, Cotton Presses, and in all places where belts are subjected to moisture or atmospheric changes, the "CANDY" stands paramount. For further information, prices, etc., write The Candy Belting Co., BALTIMORE, MD. SOUTHERN AGENTS: Smith & Courtney, Richmond, Va. Atlanta Rubber Co., Atlanta, Ga. Baker, Sisco & Co., New Orleans, La.

THE BEST & CHEAPEST

IN THE WORLD

STITCHED CANVAS BELTING

THE CHESAPEAKE BELTING CO. BALTIMORE, MD.

The Only Manufacturers of Raw Hide Belting in the Country.

The Chicago Rawhide Mfg. Co. RAWHIDE BELTING, LACE LEATHER, ROPE, LARIATS, FLY-NETS,

Picker Leather, Stock and Farm Whips, Washers, Hame Straps, Hame Strings, Halters and other Rawhide Goods of all kinds, by Krueger's Patent.

This Belting and Lace Leather is not affected by steam or dampness; has more grip than any other; never becomes hard; is stronger, more durable and the most economical Belting made. Especially adapted for the Southern trade on account of its resistance to moisture. The Rawhide Rope for Round Belting Transmission is SUPERIOR TO ALL OTHERS.

73 and 75 OHIO STREET, CHICAGO, ILL.

OUR BELTING IS TANNED ON THE SURFACES ONLY. INTERIOR IS RAWHIDE. The only Perfect Belt made No slipping or lost motion.

SEND FOR OUR VALUABLE BOOK. FREE.

ST. LOUIS, MO. —AGENTS IN ALL CITIES—

McShane & Bell Foundry

Patent and Brass Castings Made to Order.
Manufacture those celebrated
Bells for Tower
Clocks, Court-Houses,
Cotton Mills, Facto-
ries, &c. Prices and cata-
logues sent free. Address
H. McSHANE & CO.
Baltimore, Md.
Mention this Paper.

Stow Flexible Shaft Co., Limited,

2220 Pennsylvania Ave.
PHILA., PA.
Manufacturers of
FLEXIBLE SHAFTS,
And All Kinds of Machinery to
be Used with Them.
Portable Drilling, Tapping, Beam-
ing and Boring Machines. Also,
Portable Tools for Emery Wheel
Grinding, Metal and Wood Polishing,
Cattle Brushing and Clipping, &c.
Builders of Special Machines
FOR
Railroads, Bridge
& Boiler Makers,
Contractors, &c.

**VAILE & YOUNG'S
Patent Metallic Skylights.**

Without Putty
Construction adapt-
ed to all forms and
styles of Skylights.
Thousands of feet in
use have proved its
superiority. Particu-
larly adapted for
Depots, Mills, Fac-
tories, etc., where
large and continu-
ous lights are re-
quired. Send for il-
lustrated catalogue.

300 & 311 NORTH STREET, BALTIMORE, MD.

VENTILATORS

Made of galvanized iron and copper. Strong up-
per draft. Exhausts foul air, odors, gases, steam,
etc. from mills, stores and dwellings; cures smoky
kitchens. Perfectly storm-proof.
Galvanized iron and copper cornices and gutters,
and metal work for buildings. Send for illustrated
catalogue.

E. VAN NOORDEN & CO.,
885 Harrison Ave., BOSTON, Mass.

**THE GREAT IMPROVEMENT IN
ROOFING.**

We are now ready to supply the product of
entirely new machinery and processes just com-
pleted by which we not only have greatly improved
the strength and durability of our well-known
Asbestos Roofing, but have also secured a
degree of uniformity never before attained in any
similar fabric. We offer this as the PERFECTED
form of the portable Roofing which we have man-
ufactured with continued improvements during the
past thirty years, and as the most desirable Roofing
for general purposes.

The important features of our recent improve-
ments, for which patents have been allowed in this
country and in Europe, are described in our new cir-
cular, which, with samples, will be sent free by mail.

Our Asbestos Roofing is now in use upon Facto-
ries, Foundries, Cotton Gins, Railroad Bridges, Cars,
Stables, etc., in all parts of the world.

It is supplied ready for use, in rolls of 200 square
feet, and weighs with Asbestos Roof Coating, ready
for shipment, about 85 pounds to 100 square feet.

It is adapted for steep or flat roofs in all climates,
and can be readily applied by unskilled workmen.

There are inferior imitations of our Asbestos
Roofing, purchasers are cautioned.

Simple and Descriptive Price List free by mail.
H. W. JOHNS MANUFACTURING COMPANY,
SOLE MANUFACTURERS OF

**H. W. Johns' Liquid Paints,
Fire-Proof Paints, Building Felt,
Steam-Pipe and Boiler Coverings,
Asbestos Steam Packings, Gaskets, etc.**

Valuable Moulded Rings, Washers, etc.

87 MAIDEN LANE NEW YORK.

JAMES D. CARDELL.

WASHINGTON HOPKINS.

JAMES D. CARDELL & CO.**PIPE BENDING WORKS.**

PHILADELPHIA, PA.

Manufacturers of

*Coils of Wrought Iron Pipe**for Ice and Refrigerating Machines,**Attemporators, Chemical Works,**Soap Works, Blast Furnaces, Etc.**Coils of Any Desired Length of Welded Pipe.**Pipe Bending and Welding a Specialty.*

PRICES FURNISHED ON APPLICATION.

B. F. STURTEVANT'S

IMPROVED

Steel Plate Exhaust Fan,

FOR

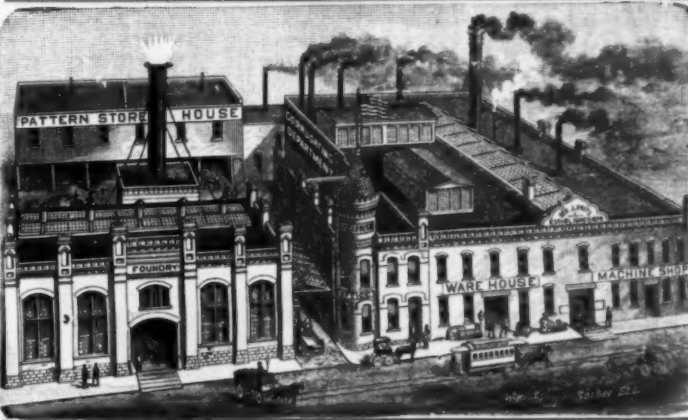
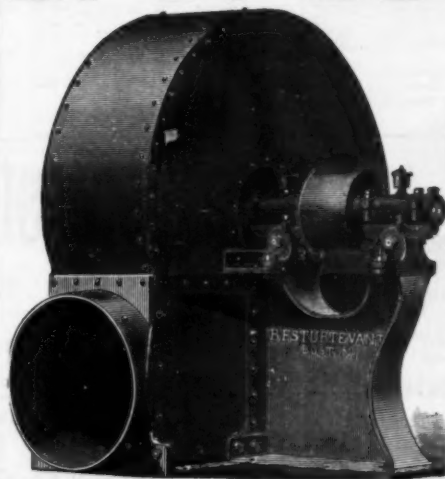
Removing Chips, Shavings and Saw
dust from Wood Working Machin-
ery. Send for catalogue No. 80.

Elevating Wool, Cotton, Cotton-Seed
Seed Cotton Hulls and similar mate-
rials. Send for catalogue No. 27.

B. F. STURTEVANT,
BOSTON, MASS.

SALESROOM 24 OLIVER STREET, Cor. Franklin.

Branches— 91 Liberty Street, N. Y.; 31 N. Canal Street, Chicago.

**Engines and Machinery.**

Steam Engines and Boilers, Boiler Feeders and Pumps,
Shafting, Pulleys and Hangers, Mill Gearing and Supplies,
Brass Goods, Fittings and Tools.

MODERN ROLLER MILLS

Electric Light Engines, single and double; Brewers' and
Coopers' Machinery, Laundry and Bottlers' Machinery.
Patterns made to order. Belting, Hose, Packing, etc.
Machinery repaired on short notice.

Millers' Rolls Reground and Corrugated.

Send for Descriptive Catalogue, Price and Pattern List.

GEO. J. FRITZ

Founder and Machinist,

2008 to 2028 S. Third St.,

TELEPHONE 2014

ST. LOUIS, MO.

RICHMOND CITY MILL WORKS,

RICHMOND, INDIANA.

— MANUFACTURERS OF —

FLOUR MILL MACHINERY

IN ALL ITS BRANCHES

A Majority of the Best Flour Mills in the South Equipped by this Company.

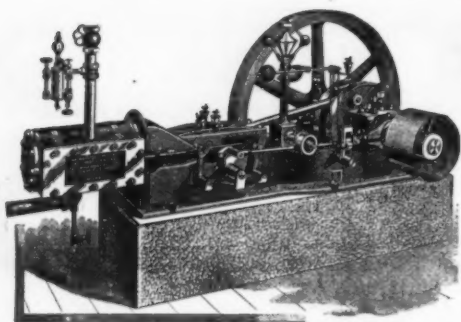
CORRESPONDENCE SOLICITED.

336, 338, 340, 342
NORTH ST.**The WARFIELD MANUFACTURING CO.****BALTIMORE, MD.**

COMPLETE PLANTS FOR THE

Generation and Transmission**STEAM POWER.**

GENERAL MACHINE WORK.

Machinery Designed and Constructed for
Special Purposes.

THE WARFIELD-PILLINGS AUTOMATIC ENGINE.

Class A.—The Warfield-Pillings Automatic Engine. A high-grade Engine, (for high or medium speed,) for electric light and other purposes.

Class B.—The Warfield Throttling Governor Engine—Horizontal and Vertical.

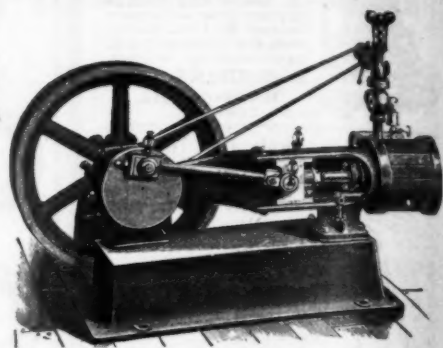
OUR MACHINERY IS CLASSED AND CATALOGUED AS FOLLOWS:

Class C.—Steam Boilers—Stationary Tubular, Upright Tubular.

Class D.—Shafting, Hangers, Pulleys, Couplings, &c.

Class E.—Fruit, Vegetable and Oyster Packers' Machinery—most complete line on the market.

Any of the above Catalogues mailed upon application.

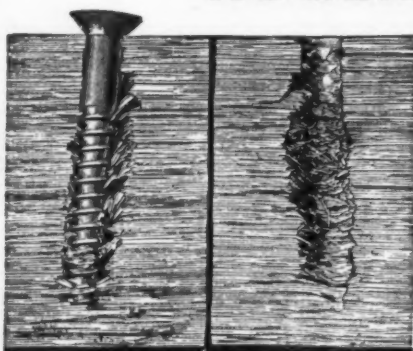


THROTTLING GOVERNOR ENGINE, HORIZONTAL.

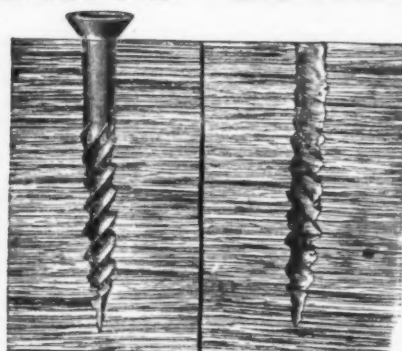
Class F.—Can-Making and Sheet-Metal Machinery.

Class G.—The Warfield-Pillings Patent Water Motor, Ceiling, Column and Exhaust Fans, complete Ventilating Apparatus, Patent Electric Motors.

AMERICAN SCREW CO., PROVIDENCE, R. I.
"ROGERS' DRIVE SCREWS." Patented May 10, 1887; July 19, 1887;
 July 10, 1888. Other patents pending.



A common cut thread screw as ordinarily inserted—i. e., driven two-thirds of its length with a hammer and the balance with a screw driver. Fibres of the wood are necessarily broken, and the holding power of the screw much impaired.



The "ROGERS' DRIVE SCREW" driven with a hammer its entire length. It revolves as it goes in and does not break the fibres of the wood, but makes its own nut of the cavity it forms.

WIER & WILSON, Agents, Baltimore, Md.

The foregoing illustrations speak for themselves, but we call attention to a few advantages of the "ROGERS' DRIVE SCREWS."

1. Stiffness, adapted for driving with a hammer.
2. Rapidity of insertion.
3. Increased holding surface.
4. Ability to be driven with hammer and withdrawn with screw driver numerous times from same hole.
5. Superior head, which will withstand blows of a hammer and not impair the slot.
6. Improved slot, admitting the use of a heavier screw driver.
7. A Rogers' Drive Screw of small diameter will hold as much as a common screw of a larger diameter.

Discount 66 2/3 per cent. from list of common screws.



TRADE MARK.

**Covert Web Goods, Rope Goods,
 Snap and Chain Goods**

bear the above TRADE MARK, and are sold by all LEADING JOBBERS at Manufacturers' prices.

Covert Manufacturing Co. West Troy, N. Y.**Attention, Hardware Dealers.**

Send for Circular and Price List of the
WOLVERINE HOG RINGER, the Best Ringer on the Market.



THE WOLVERINE
 Hog Ringer and Rings
 MANUFACTURED BY
 HESSEN BROS. & CO., TOWNSHEND, MICH.

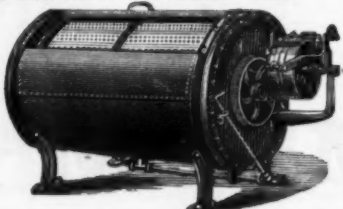
Laundry Machinery.

LARGEST STOCK. LATEST IMPROVEMENTS. FULLEST LINE.

Washing Machines,
 Ironing Machines,
 Centrifugal Machines,
 Mangles, Wringers, &c.
BOILERS AND ENGINES.

—OUTFITS FOR—
 Hotels and Public Institutions.

A SPECIALTY.

THE A. M. DOLPH CO.222 WASHINGTON STREET,
CHICAGO, ILL.40 CORTLANDT STREET,
NEW YORK.COR. 9TH ST. & FREEMAN AVE.
CINCINNATI, O.**The Greatest Compliment**

Which our competitors pay us is to represent their products "just as good as BONNELL'S NUBIAN IRON ENAMELS." We compare with no one, we are *sui generis*, that means we make the best black varnish for iron in the United States; all grades from cheap agricultural dipping to the best bicycle enamel made. We are the standard on goods for Ice Machinery. Write us and get bottom prices.

THE NUBIAN IRON ENAMEL CO.

163 Sangamon Street, CHICAGO.

77 Warren Street, NEW YORK.

—ESTABLISHED 1847.—

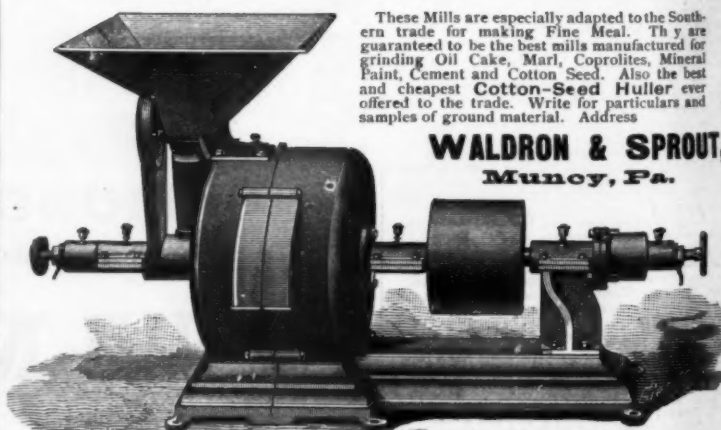
BALTIMORE MILL FURNISHING WORKS.**B. F. STARR & CO.**

BALTIMORE, MD.

BURR STONES FOR ALL PURPOSES.

Portable Mills, Roller Mills, Smut Machines, Shafting, Pulleys,
 Gearing and General Mill Machinery.

Importers of Bolting Cloths and General Mill Furnishings.
 The Leading Mill Furnishing House on the Atlantic Seaboard.

FRENCH BURR MILLS,

These Mills are especially adapted to the Southern trade for making Fine Meal. They are guaranteed to be the best mills manufactured for grinding Oil Cake, Meal, Coprolites, Mineral Paint, Cement and Cotton Seed. Also the best and cheapest Cotton-Seed Huller ever offered to the trade. Write for particulars and samples of ground material. Address

WALDRON & SPROUT,
 Muncy, Pa.

Manufacturers of French Burr Mills, Flour Bolts, Corn Meal Sieves, Wheat
 Scourers and Cleaners, Corn Ear Crushers, &c.

THE CINCINNATI CORRUGATING CO.

Box 226, Piqua, Ohio.

MANUFACTURERS OF

Superior Iron and Steel Roofing

SIDING, CEILINGS, ARCHES, LATH, Etc.

Furnish Light and Heavy Corrugated Galvanized Plates of Special Pattern promptly to order. Correspondence Invited.

HOLTON ROOFING SIDING

IRON ROOFING
CEILING & C.
NEW LISBON, O.
AGENTS WANTED EVERYWHERE

C

SYKES' IMPROVED
Best Roof in the World.
Suitable for all classes of buildings.
Easy put on.

CRIMPED
CORRUGATED

All my Iron and Steel is re-rolled and box annealed, well painted on both sides with the Best of Paint and Pure Linseed Oil.

SYKES IRON ROOFING CO., NILES, OHIO.
Send for Circular and Price List, and mention this paper.

The Kanneberg Roofing Co., Canton, O.

(The Originators of Strictly Genuine Steel Roofing.) MANUFACTURERS OF
The KANNEBERG PATENT, Latest Improved, Folded Lock Seam, Strictly Genuine Steel Roofing.
Write for Catalogue, Price List and Samples.

THE BERGER MANUFACTURING COMPANY, CANTON, O.

SEND FOR ILLUSTRATED CATALOGUE, SAMPLES & PRICES.

BERGER'S LOCK SEAM STEEL ROOFING

DON'T make arrangements for ROOFING 'till you have seen ours.
It Excels all other Metal Roofs.

METAL ROOFING, SIDING AND CEILING.

FIRE-PROOF SHUTTERS AND DOORS.

SHEET IRON AND SHEET STEEL,
Corrugated, Black, Painted & Galvanized.
Don't buy without sending for our Prices and Catalogue.

WHEELING CORRUGATING CO., Wheeling, W. Va.

Felt-Lined METAL Shingle.

Tegethoffs' Patent, No. 334,624, dated January 19, 1886.

PATENT FOR SALE.

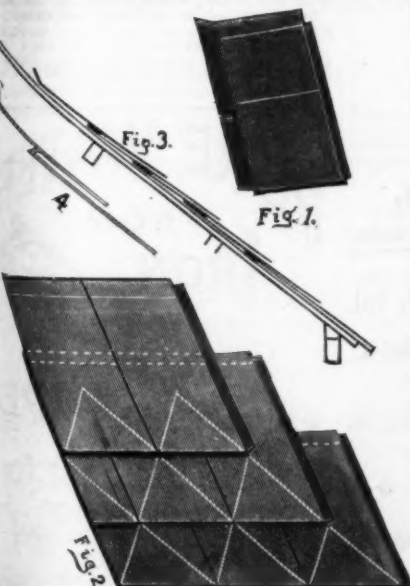


Fig. 1.—Underside view of the shingle, showing method of attaching the felt lining.
Fig. 2.—Section of roof.
Fig. 3.—Showing interlock of felt linings.
A Fire and Storm-Proof Roof weighs less than 200 pounds to the square: is not effected by expansion or contraction painted on both sides and felt lined under gives a perfect protection against condensed moisture on the underside of the metal; is easily and rapidly laid, and requires no skilled labor in the manufacture nor its application. A complete metal shingle 10x18 inches laid 8 inches to the weather, giving a double thickness of metal and felt, making a solid and compact roof that will be warm in the winter and cool in the summer. Will last as long as the building stands without repairs except paint on the outside.
For particulars address

FRANK RANDEL,
97 Bridge Street,
CLEVELAND, O.

CAMBRIDGE ROOFING COMPANY, Cambridge, Ohio.

MANUFACTURERS OF
CROWLS PATENT STANDING SEAM STEEL ROOFING
Plain Rolled, Crimped Edge, Corrugated and Beaded Roofing, Siding and Ceiling.
Pure Steel a Specialty.
Send for Descriptive Catalogue.

LOWE & TUCKER, Chattanooga, Tenn.

— DEALERS IN —

Pig Iron, Iron Roofing,

RAILROAD AND FURNACE SUPPLIES.

DRUID FABRIC ROOFING

The Cheapest, Most Durable and Desirable Roofing Material on the Market.

It is Water-Proof, Weather-Proof, Acid-Proof and practically Fire-Proof. Is endorsed by the New England Mutual Fire Insurance Co.
This roofing is specially recommended to owners of city and country property; it can be applied without the aid of skilled labor. Everyone can be his own roofer at very small cost. We put on this roofing when it is desired.

Druid Elastic Paint
Is the most Elastic, Durable and Economical Paint known for Tin Roofs, Smoke Stacks, Boilers, Boiler Fronts, Bridges and all metal and wood surfaces. It is fire-proof, water-proof and acid-proof; it resists all rust as well as acid and smoke fumes; it will not peel, crack or blister. Especially adapted for making walls and northeast exposures water-proof. Bricks painted with two coats of this compound will resist a water pressure of 200 pounds to the square inch. The same applies to cement and mortar work. Send for prices and further information.

DRUID FELT CO.
7 S. GAY STREET, BALTIMORE, MD.
MANUFACTURERS.

THE FRED. J. MEYERS MFG. CO.
COVINGTON, KY., Manufacturers of
WIRE GOODS OF ALL KINDS,
Wrought-Iron Fencing, Cresting and Hardware Specialties.
Send for Illustrated Catalogue and Price List.

Wire and Wire Goods

SPECIALTIES.
Wire Cloth, Wire Rope, Fences and Railings, Barbed and Plain Fencing Wire, STAPLES.
Screens for Coal, Sand and Ore.
POLISHED BRASS WORK.

We make a Specialty of fine Artistic Work. Original Designs for Bank and Office Railings, Elevator Guards and Ornaments. We solicit correspondence with Architects, Contractors and Builders, Bankers, etc. Write for Illustrated Catalogue and Price-List—Free. Mention this paper.

116 S. FOURTH STREET,
Opp. Southern Hotel, St. Louis, Mo.

Write us

LATEST IMPROVED SLIP JOINT EAVE TROUGH,
LONGEST IN THE WORLD, GOES TOGETHER EASILY, NO SOLDER REQUIRED. BEST CONDUCTOR, HANGERS, STRAINERS, ETC.

PAT'D 1889

MADE BY **THE CANTON STEEL ROOFING CO., CANTON, O.**

Eastern Lumber Markets.

[Special Cor. MANUFACTURERS' RECORD.]

NEW YORK, June 3, 1890.

Before shipping lumber to this market at this season of the year it would be well for manufacturers and shippers to consult with their Northern representatives—not that there is any danger of not being able to get rid of good lumber, but it would be advisable to know just what kinds of lumber are especially wanted at this time, in order to get the best returns. A good many buyers are in the market, and many of them have not yet purchased; they want special sizes and lengths and only just so much. The retailers who are well stocked are just now asking very stiff prices; this, we understand, is true of the retailers in Boston and Philadelphia as well as New York. The retailers have been selling all along at very low prices, and are now taking advantage of the little spurt in demand to put prices up when they find that a certain lumber is especially in demand. Even the white pine dealers have managed to put up prices a little, but it is scarcely likely that it can be continued. A good many Western dealers have been visiting Eastern markets during the past week or two endeavoring to work off large stocks, but not with as much success as they anticipated on starting out. The lumber trade is gradually drifting more and more into the control of the home people in the three large cities East because it ought to. They are managing the business better than the lumber manufacturers can; a few experiments that have been made show that a Chicago or Savannah or Nashville manufacturer cannot manage his interests here as well as we can.

Several cargoes of spruce have recently arrived, and sold promptly at high prices. Heavy receipts of hemlock are coming in for distribution throughout New York and New England, and all are sold at good figures; in fact, all kinds of lumber are now bringing what might be termed strong prices, and that, too, in the face of the fact that a great many large building operations are still in abeyance. We are figuring upon an unusual degree of building activity during the last half of the year. In Philadelphia the carpenters' strike is still on, and the master builders say they will not give in; in fact, they are more determined than ever to fight it out with the men. That fact does not seem to have affected the lumber trade there to any serious extent. The volume of business in the surrounding country, where business goes on as usual, is very heavy.

Some of our retailers and wholesalers have been doing a very heavy business in the towns surrounding New York and in the Hudson River valley. In many instances shipments are made direct.

A heavy demand has set in for hardwoods during the past few days, and some of our dealers have run out of merchantable stock. Culls are plentiful.

Poplar is selling well at full association prices, except for refuse stuff and culls, which we try to avoid accumulating, and sell off for what they will bring. Quartered oak, as usual, is in good demand and everyone is buying. The rush for it will soon subside, as most users have enough stock in hand for ordinary requirements.

The exporters of walnut are very busy picking up desirable stock; some of them say that they have about all the stuff they want for shipment during June and July.

Ash has been arriving in more liberal supply during the past few weeks, and our urgent wants for it are now met. A good business is being done in the miscellaneous woods, and the yards are now being restocked with maple, chestnut and birch. Birch is coming into quite extensive use as a substitute for other woods. Cottonwood and cypress are also meeting with good demand.

It is only necessary to say in regard to yellow pine that a heavy business is being done. Arrivals are up to the average for the season and we hear of no shadings in prices. At the same time, it is well, and in fact, absolutely necessary, for a new man entering upon the yellow pine trade to have a first-class representative at this point. Just at present there are a number of new contestants for trade who are just setting up in business and whose experience and connections are not always such as to enable them to dispose of their lumber to good advantage.

THOMAS J. SHRYOCK & CO.
YELLOW PINE COMMISSION
MERCHANTS.
Correspondence Solicited.
BALTIMORE AND WASHINGTON.

E. B. HUNTING & CO.
BALTIMORE, MD.
JACKSONVILLE and FERNANDINA, FLA.
and SAVANNAH, GA.

WHOLESALE MERCHANTS
AND MANUFACTURERS OF

Yellow Pine Lumber

Buy for cash on cars at Mills and sell delivered to all points reached by rail or water. Write Baltimore Office.

J. H. WILEY
GADSDEN, ALABAMA.
LARGE BODIES OF
Iron, Coal and Timber Lands
FOR SALE.

Correspondence Solicited.

Hardware and Gun Trade: Quote our

\$5 Clay Pigeon Trap.

Electrotypes furnished gratis for catalogues.
Liberal commissions. No-page book free. Address
LIDOWSKY CLAY PIGEON CO. CINCINNATI O.

OLNEY BROTHERS,

N. E. Agents for
Binghamton Cylinder & Spindle
AND DEALERS IN
Sperm, Lard, German, OILS
Spindle and Wool

140 CONGRESS ST., BOSTON, MASS.

Valk & Murdoch Iron Works,
CHARLESTON, S. C.

ENGINES and BOILERS.

Machinery for Complete Fertilizer
Works, Rice Mills, &c.

MORGAN'S IMPROVED
Steam and Hot Water Boilers,
For WARMING City and Country Residences,
Hotels, Schools, Churches and Public
Buildings. Send for Catalogue.

THE D. F. MORGAN BOILER CO., Akron, O.

ARE YOU TROUBLED

With odors in your kitchen, foul and impure air
in your bath or living rooms? If so, examine the
merits of

Ekstrom's Ventilator

And Stove Pipe, Collar, Thimble
and Holder Combined.

Circular sent on application.

CHENEY & HEWLETT,

207 Broadway, New York City.

JOHNSON, SHRYOCK & CO.
HARDWOOD COMMISSION
MERCHANTS.

Correspondence Solicited.

Office. - Shryock Building,
BALTIMORE.

F. H. DAVIS & CO.

Dealers in New and Second-Hand

Paper Mill Machinery

No. 101 Milk Street, Boston.

Gem Spring Hinges.

SINGL
AND
DOUBLE
ACTING.



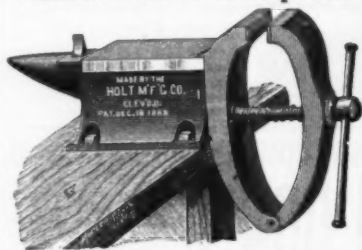
FOR
SCREEN,
MEDIUM
AND
HEAVY
DOORS.

Feet.	Inches.	Length of Flanges	Single Acting pr. pair	Double Acting pr. pair	Copper Braced Single Acting pr. pair	Copper Braced Double Acting pr. pair
6x2	3 1/2	10 1/2	3 1/2 in.	\$0 70	\$1 40	\$2 00
7x2	1	10 1/2	4	0 90	1 75	2 50
7x2 1/2	1	10 1/2	5	1 10	2 20	3 00
8x2 1/2	1	10 1/2	6	1 40	2 80	3 75
8x2 1/2	1 1/2	10 1/2	7	1 75	3 50	4 50
8x3	1 1/2	10 1/2	8	2 50	5 00	5 50
10x3	1 1/2	10 1/2	10	3 50	7 00	7 50
10x3 1/2	2	10 1/2	12	4 50	9 00	10 00

MANUFACTURED BY
VAN WAGONER & WILLIAMS CO. New York
Send for April (1890) Catalogue

COMBINED ANVIL AND VISE.

HARDENED FACE, STEEL JAWS.
5 SIZES—from 10 to 75 pounds.



Anvil and Vise can be used independent of each other.
Illustrated Catalogue to all applicants, but
discount to Trade only.

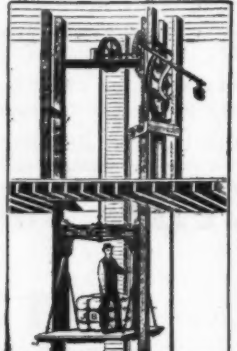
HOLT MANUFACTURING CO.,
1018 & 1020 First Av., Cleveland, O.

EASTERN AGENTS—MONTGOMERY & Co., 105
Fulton St., New York. WESTERN AGENTS—M. M.
Buck & Co., St. Louis Mo.
Discount to Trade only.

Bates' Hand Elevators

Pat. April 18, 1871. Reissued July 25, 1876.

OVER 6,000 IN USE.



Adapted for Warehouses, Stores, Factories,
Hotels, Public Institutions and every place where
merchandise, &c. is transferred from one story to
another.

JAMES BATES,

PATENTEE,

Nos. 1, 3 & 5 President Street, BALTIMORE.



The Jeffrey Mfg. Co.

121 W. State St., Columbus, O.

MANUFACTURERS OF
DETACHABLE CHAIN BELTING
DESIGNED FOR

Elevators, +

+ Conveyers,

DRIVING BELTS

For Handling Barrels, Boxes,
Bales, Grain, Coal, Ores, &c.

Illustrated 1890 catalogue sent on
Application.

Correspondence solicited.

JOYCE, CRIDLAND & CO.
DAYTON, O.

MANUFACTURERS OF

J. O. Joyce's Patent Lever Jacks,

COMPOUND LEVER

AND SCREW JACKS,

And Bench Vises.

50 varieties of Lever and Screw Jacks
for railroad use.

Please send for illustrated catalogue

COTTON SEED OIL MILLS.

From 5 to 50 tons daily capacity.

THESE MILLS HAVE ALL THE MODERN IMPROVEMENTS
AND PRODUCE THE MOST SATISFACTORY RESULTS. SEND FOR PARTICULARS.

Address **H.W. HUBBARD,** ATLANTA GA.
OR DALLAS, TEX.

GLOBE
STANDING SEAM IRON ROOFING
& CORRUGATING CO.
CINCINNATI, O.

MANUFACTURERS OF SUPERIOR
GRADES

CORRUGATED IRON & STEEL

ROOFINGS SIDINGS AND CEILINGS

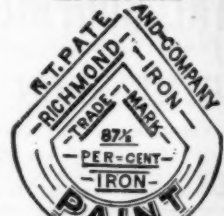
CORRESPONDENCE SOLICITED
WITH DEALERS OR THOSE
CONTEMPLATING

BUILDING
ESTIMATES AND PRICES
FURNISHED PROMPTLY.

RICHMOND IRON PAINT CO.

WEATHERPROOF, WATERPROOF AND FIREPROOF.

Never Cracks, Blisters or Peels. Especially
adapted for Tin, Zinc, Copper, Iron, Shingles
and Board Roofs.



PAT'D SEPT. 30, 1878.
No. 7,707.

DAMP AND IMPERFECT WALLS ARE ALSO RENDERED
DRY BY THE USE OF THIS PAINT AND CEMENT.

Agents wanted for the State of Maryland
and all unclaimed territory in the South.

N.T. PATE & CO., 1007 E. Cary St., Richmond, Va.
Gen. Agency "Vulcan Fire-Proof and Solter's" Paints.

PURE WATER FROM IRON RUSTLESS PIPES

The best for
conveying water.

MADE BY THE
WELLS RUSTLESS IRON CO.
52 JOHN STREET,
NEW YORK CITY.

BUY AND SELL Second-hand Saw, Stave, Heading,
Shingle, Hoop Mills, Engines, Boilers, Churn and Ice
Machinery, for CASH. Address Box 110, Cleveland Ohio.

Fruit Evaporating.

The accompanying illustration shows one of the fruit evaporators manufactured by the American Manufacturing Co., of Waynesboro, Pa.

Evaporated fruit is now a staple market product, and the demand for good stock is greater than the supply, hence profits are large, and will be so for years to come, as most of these fruits put upon the market are very inferior in quality. The best fruits now come from New York and Ohio, as the farmers there use every care in evaporating and manipulating to obtain the best results. The quality of fruits and berries in the South is superior to those in the North, and were equal care used in the South, Southern dried fruits could easily be the market standard.

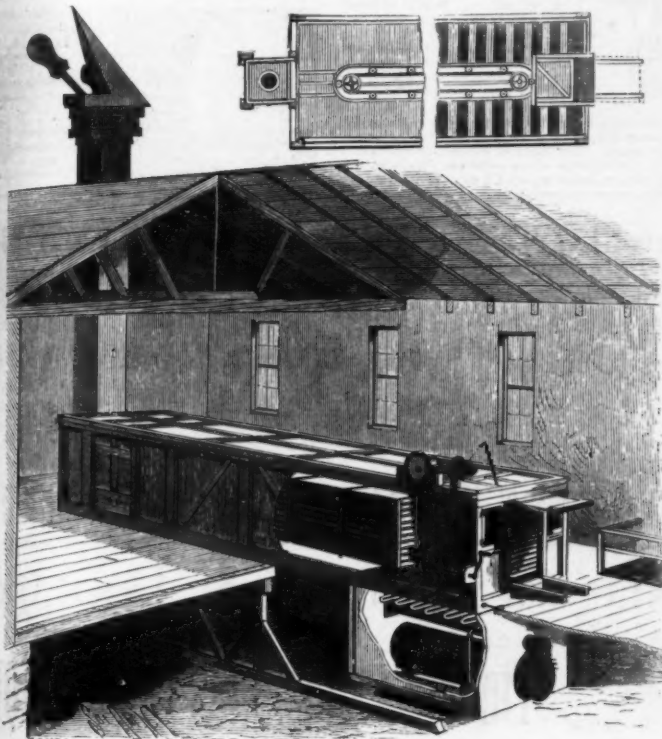
Sun-dried fruits—so familiar to every Southerner in years gone by—still has a market value, but it is only a fraction of the value of evaporated fruits. The labor, time and expense of evaporating is less than sun-drying. Hence there can only be good profits in the evaporating process. It is impossible to obtain the best results in the old process, even if the elements are propitious, while in evaporating, with a

industry. Circulars and catalogues, which give instructions and descriptions of the apparatus, can be had upon application. The company has an advertisement in this issue.

Middlesborough.

The attention which Middlesborough will receive as soon as the reports of the newspapers and railroad men who are visiting there to-day are made will be only what is due to one of the best conceived and most substantial development projects which this day of large enterprises has witnessed.

The projectors of Middlesborough say that they intend to make it the site of the greatest steel manufacturing industry in the world. Their large expenditures so far, the great works they have already completed and that they have now in progress are a sufficient guaranty that they state their object truly, and that the foundation of Middlesborough was not a mere device for selling town lots. A busy and bustling city has already sprung into existence. The opening and utilizing of the immense tracts of coal, iron and timber lands which the projecting company own outside of the



FRUIT EVAPORATOR.

little care, the best marketable product can be obtained every time.

The first cost and operating expenses in evaporating are much less than in the canning process. The two can be very economically worked together, but of either, evaporating can be done on much less capital, and the results are more satisfactory. The quality of canned goods is an unknown quantity, and years are required to work up a reputation so as to obtain a higher price than inferior goods bring. Evaporated fruits show for themselves what they are, and care and skill manipulation receive instant reward.

In hundreds of towns and villages an evaporating factory costing but a few hundred dollars would pay its owner big profits, afford a market for farmers' fruit crops and give employment to a number of boys and girls in preparing it for the machine. General stores, grocers, and, find this a valuable addition to their business. It secures the farmers' trade for miles, as they will buy their goods where they can sell or exchange their wasting surplus fruits and berries. The American Manufacturing Co. is among the pioneers in the fruit evaporating business, and has gathered a great deal of valuable information regarding this

town, and the manufacturing establishments already begun or contracted for justify and explain its rapid growth.

The American Association, (Limited), which has undertaken the Middlesborough project is, according to evidence entirely satisfactory to conservative enquirers, one of the strongest, if not the strongest, of the combinations of English capitalists formed for investment in American enterprises. Mr. Alexander A. Arthur, their American representative and manager, a gentleman of comprehensive and far-reaching ideas, bold in conception and of admirable executive ability, has formed on thorough investigation a high opinion of the importance and value of the mineral resources of Eastern Kentucky and the contiguous territory, and has imbued his associates with his own belief. They are doing a great work for Kentucky, and their enterprises are in harmony with and will help rather than hinder all well-directed efforts to utilize for the world's benefit the long neglected wealth of our mountain region.—Louisville (Ky.) Commercial.

Important to All Corporations.

Every Incorporated Company should USE KAUFFMAN'S Copyrighted Forms of Improved Record Book, Transfer Book, Stock Register, Stock Ledger and other valuable Books. Write for Descriptive Circular. Address

CORPORATION BOOK CO.

P. O. Box 384, Lancaster, Pa.

THE JACKSON & WOODIN MFG. CO.

Cast Iron Gas and Water Pipe and Castings

OF ALL DESCRIPTIONS.

Berwick, Columbia Co., Pa.
FREIGHT CARS, CAR WHEELS, BAR IRON,
SPECIAL CASTINGS.

CANE MILLS

More kinds and sizes of Mills and Evaporators, for Sorghum and Sugar Cane, are made by The Hlymyer Iron Works Co., of Cincinnati, O., than by any other works in the world. They are the sole makers of the Victor, Great Western and Niles Mills, the Genuine Cook Evaporator, and the Automatic Cook Evaporator. Send for Catalogue, Prices, and The Sorghum Hand Book for 1890.

W. J. CLARK & CO., Salem, O.

MANUFACTURERS OF
Elevating & Conveying Specialties

Sole Manufacturers of the "SALEM" ELEVATOR BUCKET, for Mill and Elevator work, Ear Corn, Corn and Cobs, Ores, Coal, Broken Stone, &c. Send 9 cents (stamp) for postage on Sample Salem Bucket and Illustrated Catalogue.

THE CHAMBERLIN
Screw Stump Machine.

The only Stump Machine in the world that successfully pulls all classes and sizes of stumps. Write for catalogue and price list.

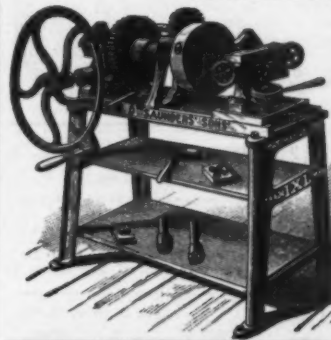
MANUFACTURED BY THE
CHAMBERLIN MFG. CO.
CLEAN, N. Y.

THE NEW SUPERIOR

Double-Acting, Non-Freezing
FORCE PUMPSPECIALLY ADAPTED FOR
DRILLED WELLS
DOUBLE WROUGHT PIPE STOCK
NON-BREAKABLE.LARGE & STRAIGHT WATER-WAYS.
STEADY FLOW, EASY WORKING
3 1/2 in. Brass Cylinder goes in 2 in. Well
3 in. Brass Cylinder goes in 1 1/2 in. Well
PORCELAIN VALVE SEAT.Write for descriptive catalogue
and circulars. Address
THE SUPERIOR MACHINE CO.,
SPRINGFIELD, OHIO.

D. SAUNDERS' SONS,

MANUFACTURERS OF THE ORIGINAL



TRADE I.X.L. MARK.

Pipe Cutting and
Threading Machine.BEWARE OF IMITATIONS.
None genuine without our Trade
Mark and name. AlsoPatent Wheel Pipe Cutter
STEAM AND GAS FITTERS'
HAND TOOLS.

Pipe Cutting and Threading Machine

FOR PIPE MILL USE A SPECIALTY.

Send for Catalogue B.

YONKERS, N. Y.

THE EXCLUSIVE USE OF THIS FENCE FOR ADVERTISING PURPOSES HAS BEEN
SOLD TO PANCOAST & MAULE, PHILADELPHIA, PA.
ANY ONE CAUGHT DEFACING THIS SIGN WILL BE PROSECUTED

FOR SALE ON THE PREMISES DAILY
UNTIL FURTHER NOTICE.

The "American" Union.

A fitting which requires no packing to make a
permanent joint.

The "American" Longscrew.

which possesses similar advantages to the AMERICAN UNION.

Malleable Iron and Polished Brass

Fittings of all kinds, for building Pipe Railings,
also Awning Frame Fittings.

Ornamental Pipe Coll Fittings.

for constructing Ornamental Heating Colls
of 1 and 1 1/4 inch Wrought Iron Pipe.

"Eclipse" Pipe-Cutting Machines.

built in six different sizes for use by hand or power.

Improved Steam Glue Heaters.

Made in nineteen sizes, with copper, plain, or
enameled iron pots.

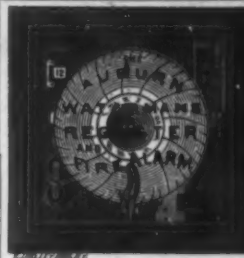
For Price Lists of any of the above, please
address,

PANCOAST & MAULE,
PHILADELPHIA, PA.

OUR CATALOGUE "A"

Contains upwards of 500 Cuts, and will
be found of service to Pipe Fitters,
Engineers, Superintendents
of Railroads, Mills, Factories,
Water, Ice, Oil, and Gas Com-
panies, and all who are interested in
the use of Steam, Water, and Gas, and
an exhaustive book of reference for
the selection of such goods.

In writing us for Catalogue, please
send your business card or other evi-
dence that you have actual use for such
a book. We make this request for the
reason that we constantly receive appli-
cations from parties who have no use
for goods in our line, but who simply
write for Catalogue from the desire
to get "something" for nothing.

PANCOAST & MAULE,
243-245 South Third Street,
PHILADELPHIA.THE
"Auburn" Watchman's Clock.

The best in the market, and the
only one combining a system of
fire and superintendent's alarm.
The most complete safeguard
ever invented. No factory can
afford to be without it.

SEND FOR CIRCULARS TO

BUNDY MANUFACTURING CO.
BINGHAMTON, N. Y.

Maslin's Patent Steam Pump.

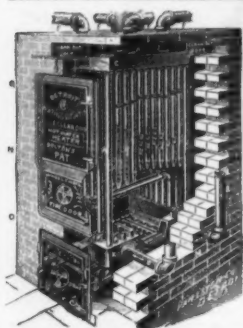
Pat. Feb. 12, & Dec. 2, '88.

Cheapest and Best Automatic Steam Vacuum
Pump. Handling DIRTY and GRITTY
LIQUIDS without Wear, Oil or Care.
Simple, Economical, Efficient & Durable.
Pumping Plants for Contractors, Irriga-
tion, Water Works, Railroads, Mining &
General Hydraulic Purposes. Write or call
for Circulars. JOHN MASLIN & SON, SOLE
MANUFACTURERS, 185-187 1st St., Jersey City, N. J.

S. E. CRAWFORD,
NORWALK, OHIO.MANUFACTURER OF
Rubber Bucket Chain
And Wood Force Pump Supplies.

Correspondence Solicited.





BOLTON

Best for Warming Dwellings, Greenhouses, Schools, Hospitals, Etc.
Most Economical, Durable and Easily Managed

HOT WATER HEATER.
Best Record for Years Safe and Cleanly.
of Service in Canada and the Blizzard Northwest.
The Favorite in the Mild Climate of the Gulf States.

Its Vertical Circulation renders its action prompt and rapid. Its Fire Surface is the largest in proportion to grate surface.
No Bolted, Flanged or Packed Joints, therefore cannot leak. Its Brick Casing prevents loss of heat in cellar.

Made of Wrought Iron, therefore cannot crack.

DETROIT HEATING & LIGHTING CO.

88 Lake Street, CHICAGO.

359 Wight Street, DETROIT.

SEND FOR CIRCULARS.

STANDARD RADIATORS,

ALL SIZES.

Discounts to the Trade.



COMBINATION GAS MACHINE

BEST INDEPENDENT GAS APPARATUS
for Country and Suburban Residences,
Churches, Schools, Stores, Hotels, &c.
Over 20 years in use with never an
accident.

Average Cost of Gas $\frac{1}{2}$ Cent per
Hour per Burner.



CARRIAGE,
WAGON & SEAT SPRINGS

The CANTON SPRING CO.

MANUFACTURERS OF

High-Grade Vehicle Springs

CANTON, O.

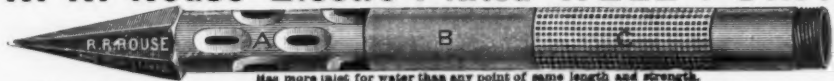
OF EVERY VARIETY.

Catalogue on application.

PERFORATED METALS OF EVERY DESCRIPTION BY THE HARRINGTON & KING PERFORATING CO. CHICAGO.

EASTERN OFFICE, No. 284 PEARL STREET, Cor. Beekman, NEW YORK.

R. R. Rouse Electro-Plated WELL POINT.



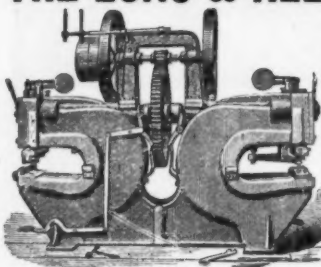
This is a NEW PATTERN, EXTRA STRONG: will stand rougher use than any in the market. A showing the openings before the wire gauge is soldered on. After wire gauge is soldered on. Showing wire gauge and perforated brass soldered on. These Points are Electro-Plated, with Pure Block Tin inside and outside before receiving the coverings, there being no raw iron to corrode or rust or cause an unpleasant taste in the water. The Electric Process by which it is done is patented and exclusively owned and controlled by me for Well Points in the United States. Warranted not to strip loose where soldered. Write for details and circulars of well tools.

R. R. ROUSE, Indianapolis, Ind.



CONTRACTS TAKEN FOR FURNISHING
WATER SUPPLY
COOK'S SYSTEM OF WELLS
18 YEARS EXPERIENCE IN WELL SINKING
FOR WATER WORKS, RAILROADS,
FACTORIES, BREWERIES, ETC.
ARTESIAN WELL PUMPS
TUBE WELL SUPPLIES
SEND FOR CATALOGUE OF PATENT WELL MACHINERY

THE LONG & ALLSTATTER CO. HAMILTON, OHIO.



Heavy Double Machine.



Heavy Single Machine.

Double, Single, Angle-Bar, Gang, Horizontal, Twin, Boiler, Spacing, Gate, Multiple, BELT and STEAM-DRIVEN
Punch & Shears.
Over 300 Sizes.
ALSO
Power-Cushioned
HAMMER.

Send for New Catalogue.



Waltham Emery Wheel Co. Manufacturers WALTHAM, MASS.

By our various processes we can guarantee satisfaction for the greatest variety of work.
EMERY WHEEL MACHINERY.
EMERY, CORUNDUM, Etc.
These wheels can be bought of our agents or ordered direct.

IRA DIMOCK, Pres.

Established 1867.

J. L. OTIS, Treas.

Northampton Emery Wheel Co. MANUFACTURERS OF



Premium Solid Emery
AND
CORUNDUM WHEELS,
AND ALL KINDS OF
Emery Wheel Machinery.
LEEDS, MASS.

WESTERN BRANCH:
20 SOUTH CANAL STREET, CHICAGO, ILL.

NORTON EMERY WHEEL CO.



NORTON EMERY WHEEL CO.
WORCESTER, MASS.

MANUFACTURERS OF—

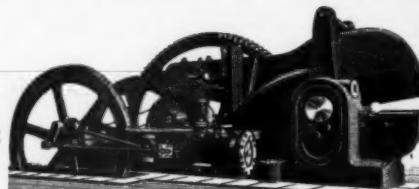
EMERY and
Corundum Wheels,
Emery Wheel Machinery
AND NUMEROUS SPECIALTIES.

THOS. K. CAREY & BROS.
26 Light Street, Baltimore.

Southern Agents.

The LLOYD BOOTH CO., Youngstown, Ohio.

GUIDE,
BAR,
MUCK,
SHEET
AND PLATE
MILLS.



SQUEEZERS,
SHEARS,
ORE MILLS,
ROLL LATHES,
SAND AND
CHILL ROLLS.

Manufacturers of IRON AND STEEL WORKS MACHINERY.

Niagara Stamping & Tool Co.

MANUFACTURERS OF

Tinners' Machines and TOOLS

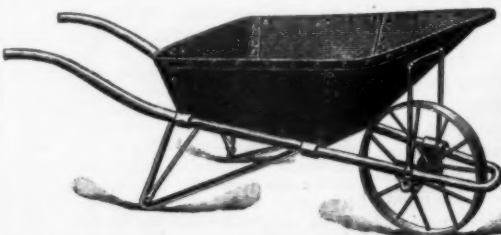
FOR WORKING SHEET METAL, &c.



Squaring and Circle Shears
Fruit Can Dies and Tools,
Canners' Outfits.

Superior, Corner of Randall Street
BUFFALO, N. Y.

Write for our Catalogue and Price List
and mention this paper.



No Plus Ultra
STEEL

Wheelbarrows.

GRANT McNEIL,
142 N. Main Street,
AKRON, O.

John L. Whiting.
Wm. S. Whiting.
Lew C. Hill.

JOHN L. WHITING & SON,

MANUFACTURERS OF

BRUSHES

Cor. High and Purchase Sts.

BOSTON, U. S. A.



APPARATUS
residence
is, &c.
ever an
Cent per

0.

PLY
VELLS
ROADS
RIES
IMPS
UES
V

Ohlo.

ERS,
S,
MILLS,
ATHES,
ND
ROLLS,

NERY.

Co.

DOOLS

Shears
ols,

Street
Y.

Filter
L

COWS,

NEIL,
street,
RON, C.

ON,

ES

St.
S. A

[FOR "CLASSIFIED INDEX," SEE PAGE 2.]

[illegible]

Western Block Co.
 LOCKPORT, N. Y.
 "Anvil" Brand Tackle Blocks
 and Sheaves,
 For Manilla or Wire Rope, or Chain.

**BANK
OFFICE**

AND STORE FIXTURES

THE TERRY MFG. CO.

NASHVILLE TENN.

ROLL
TOP
DESKS

ROCK DRILLS
AIR COMPRESSORS &
GENERAL MACHINERY
MINING TUNNELING
QUARRY & RAILROAD WORK
RAND DRILL CO. 23 PARK PLACE NEW YORK

WEST POINT BOILER WORKS

Boilers with
our Patent
Escape
Manhole
and Plate
in Each.

And all
Kinds of
Sheet Iron
Work made
to Order

R. Munroe & Son
23rd & Smallman Sts. Pittsburgh, Pa.



DAM

up a river and you get more force, but you might make the above sound every time you lift your Hand with a Nail-Puller, and it would do no good.

THE ONLY THING TO DO
 Is to buy one of
SORANTON'S IMPROVED
NAIL PULLERS

Which won't
BEND THE NAIL OR
HURT THE HAND.

MADE BY
The Belden Machine Co.
 New Haven, Conn.

SELLING AGENTS,
 The S. A. Haines Co., 90 Chambers St., New York.

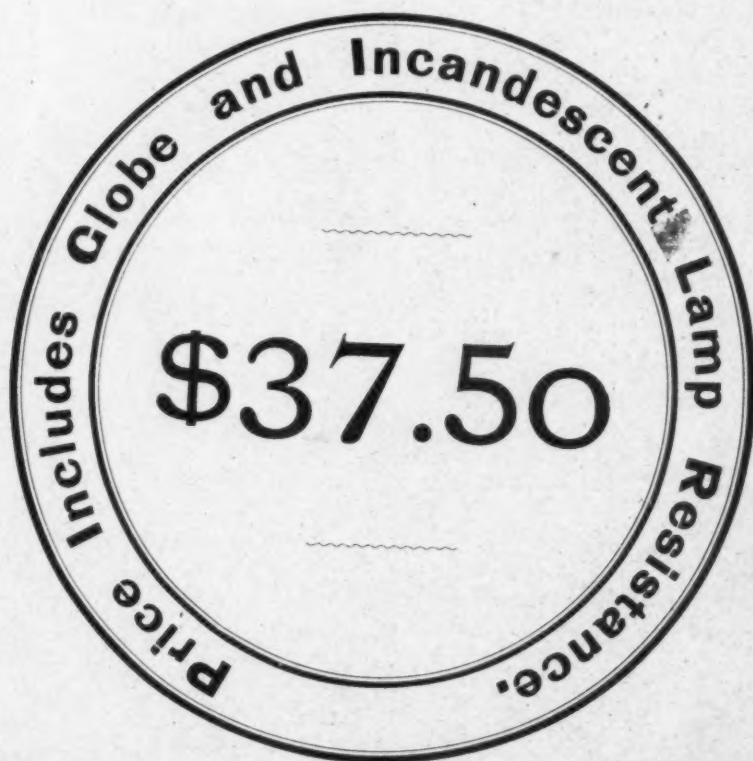
Every enterprising hard-
 ware merchant handles
 them.

UNITED EDISON MANUFACTURING CO.

65 Fifth Avenue, New York.

ARC LAMPS
ON
INCANDESCENT CIRCUITS.

1,200 C. P. and 2,000 C. P.



PERFECTLY STEADY.

NOISELESS ARC.

SOFT, BRIGHT WHITE LIGHT.

WRITE FOR ESTIMATES.

UNITED EDISON MANUFACTURING CO.

Chicago.

San Francisco.

Denver.

Toronto, Can.

THE

BRUSH ELECTRIC COMPANY,

* CLEVELAND, OHIO. *

The Best and Most Complete Systems of

Are Electric Lighting for Central Stations, Etc.

INCANDESCENCE ELECTRIC LIGHTING,

Alternating Current or Long Distance Lighting,

Electrical Power Transmission and Distribution.

FUNDAMENTAL PATENTS ALREADY SUSTAINED BY U. S. COURTS.

The Short Electric Railway Company,

* CONTRACTORS *

FOR ELECTRIC RAILWAYS ON THE SHORT SYSTEMS

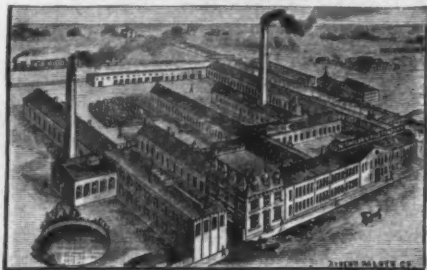
AND GENERAL RAILWAY AGENTS FOR

THE BRUSH ELECTRIC COMPANY.

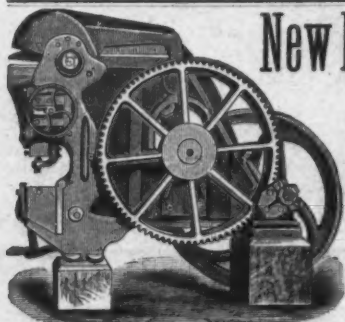
OFFICE AND WORKS: - - - - CLEVELAND, OHIO.

Nicholson File Company,

PROVIDENCE, R. I.

IN
QUANTITY
UNEQUALLED.IN
VARIETY
UN-
PARALLELED.IN
QUALITY
UNEXCELLED.IN
REPUTATION
UN-
RIVALLED.

Manufacturers of EVERY KIND of

FILES AND RASPS.**New Doty Manufacturing Co.**

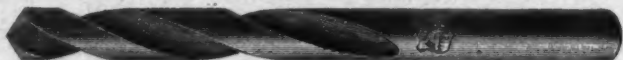
Manufacturers of Hand and Belt Power

**Punching & Shearing
MACHINERY.**Boiler Makers' Rolls
JANESVILLE, WIS.**A. WYCKOFF & SON, ELMIRA, N. Y.**

MANUFACTURERS OF

WOOD WATER PIPE

a Wood. b Hoop-iron bands. c Asphaltum coating.

FOR
Coal and Iron Mines
COKE WORKS
AND
General Water
SUPPLY.SEND FOR
CATALOGUES AND
PRICESThe ORIGINAL UNVULCANIZED PACKING.
CALLED THE STANDARD.
As it is the Packing by which all
others are compared.
Accept no packing as JENKINS' PACKING
unless stamped with our "Trade Mark."**JENKINS' BROS.**71 John St., New York. 21 N. Fifth St. Philadelphia.
105 Milk St., Boston. 54 Dearborn St., Chicago.**THE STANDARD TOOL COMPANY, Cleveland, Ohio.**Manufacturers of Bit Stock Drills, Straight Shank Drills, Taper Shank Drills
Taper Reamers, Milling Cutters, Chucks, Hatchet Drills, Screw-Drivers
Bits, Twist Drill Grinding Machines.HOLDS LOAD WITHOUT
FASTENING ROPE.
GREAT LABOR
SAVERS.
SURE GRIP
STEEL PACK BLOCKS
FULTON
IRON & ENGINE
WORKS.
DETROIT, MICH.CENTRIFUGAL
ROTARY AND PISTON
PUMPS.

Also HOUSE PUMPS.

PUMPSFIRE ENGINES,
HOOK AND LADDER
TRUCKS
And HOSE CARTS.

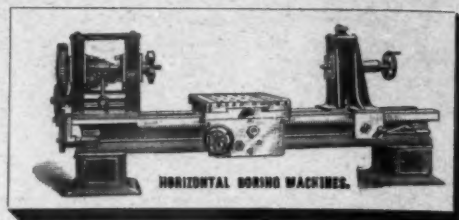
Send for Catalogue.

RUMSEY & CO., Limited,
Seneca Falls, N. Y., U. S. A.

Advertise in the Manufacturers' Record.

Nicholson & Waterman Mfg. Co.

PROVIDENCE, R. I.

LATHES.
CUTTING-OFF
MACHINES,
TRAVERSE
DRILLS,
TRAVERSE
BORING
MACHINES,
SPECIALS,
&c. &c.

HORIZONTAL BORING MACHINES.

BOLT & NUT
MACHINERY.
BROACHING
MACHINES,
FACING
MACHINES,
BOLT LATHES,
STAY BOLT
THREADERS,
&c. &c.**FIFTY YEARS in the MARKET.****IT HAS NO SUPERIOR
FOR USE IN CONSTRUCTING
BRIDGES, IRON FURNACES**

And All Work Where Great Strength is Required.

100,000 Barrels used by U. S. Government in Washington.

150,000 Barrels used by Baltimore & Ohio R. R.

50,000 Barrels used by Pennsylvania R. R.

10,000 Barrels used in Constructing Wheeling Bridge.

ONE MILLION BARRELS USEDOn many important buildings throughout the country. Extensively used in Maryland,
Virginia, West Virginia, Pennsylvania, Ohio.**Prompt Shipments. Low Freight Rates.**

Descriptive Pamphlet free upon application.

WORKS, - - CUMBERLAND, MD.

Address all inquiries to Sales Office, 67 William St., P. O. Box 2718, New York City.

**M. ALBERT SCULL,
ERNEST R. ACKERMAN,**

General Sales Agents.

Use Our **No. 6 1-2 AXLE** For Trucks, Express and Delivery Wagons.
CLEVELAND AXLE MFG. CO., Cleveland, Ohio.**THADDEUS S. COBB & CO.**

MANUFACTURERS' AGENTS AND DEALERS IN

MACHINERY OF EVERY DESCRIPTION.

36 Central Street, Lowell, Mass.

**BUFFALO BLOWERS**
CUPOLAS, FORGES, FURNACES &c.
EXHAUSTERS, STEAM FANS,
HEATERS & VENTILATING WHEELS.
BUFFALO FORGE CO.
BUFFALO, N.Y.

Before Purchasing Elsewhere write us for Catalogue and Prices.

The KILBOURNE & JACOBS MFG. CO.

COLUMBUS, OHIO, U. S. A.

